Optical Equipment Patent Examination Guidelines

Japan Patent Office

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1. Overview of Examination Guidelines

Since beginning to create its examination guidelines in 1963, the Patent Office has put together examination practices for patent applications and utility model registration applications, consecutively issuing general examination guidelines common to all technical fields and industrial examination guidelines corresponding to technical fields. The number of examination guidelines and operation guidelines conforming to them has grown over time to number in the dozens, however, and the system has therefore become overly complicated. In addition, it has become difficult to support the progress of technology, revision of the patent system, storage of new judicial precedents, etc.

As a result, the Patent Office arranged and integrated its guidelines for areas including general examinations, industrial examinations and operations in 1993, reconsidering the content to support the progress of technology, revision of the patent system and storage of new judicial precedents. In addition, it published its "Examination Guidelines for Patent and Utility Models in Japan," which has subsequently been repeatedly revised in order to cope with the development of new technologies, revision of the patent system, new judicial precedents, and so on. Currently, the Patent Office discloses these guidelines on its website so that anyone can view them via the Internet. An English translation is also available on the same website for the convenience of non-Japanese speakers.

The examination guidelines essentially outline the basic application of laws related to the Patent Act, etc. in order for examiners to examine applications fairly, appropriately and efficiently in accordance with certain standards. The guidelines are used not only as judgment criteria in examinations, but also in applicant patent management indexes.

The contents of the "Examination Guidelines for Patent and Utility Models in Japan" as currently published are as follows:

Part I: Description and Claims
Chapter 1 Requirements for Description and Claims
Chapter 2 Requirements of Unity of Invention
(Reference): Requirements for Unity of Application *Applied to applications made on or before December 31, 2003
Chapter 3 Requirements for Disclosure of Information in Prior Art Document
Part II Requirements for Patentability
Chapter 1 Industrially Applicable Inventions
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Procedure of Examination
Part X Utility Model
Chapter 1 Establishment of the Report of Utility Model Technical Opinion
Chapter 2 Basic Requirements for Utility Model Registration

This document describes Parts I to IV, omitting the description of Parts V to X. It also omits the description of Chapters 2, 3, 5, and 5 of Part I. This is primarily because the inclusion of low universality items, which depend on the patent systems of individual countries, is considered unnecessary since many of the readers of this document will be examiners in various countries, and since examiners spend most of their work in judging requirements for patentability, written descriptions, corrective measures, and so on. It is also because, even if readers of this document are businesspersons, judgments on the possibility of patent application rights acquisition, effectiveness of patent property, possibilities of invalidating others' patent properties, and so on are no different from the judgments made by examiners on requirements for patentability, written descriptions, corrective measures, and so on. That is to say, it is because patent applications cannot be managed without knowing the examiner's judgment technique.

2. Field of Optical Instruments

This document describes the examination guidelines for patent applications and utility model registration applications in the field of optical instruments. The descriptions focus on patent applications, as applications for utility model registration are treated as conforming to patent applications in the "Examination Guidelines for Patents and Utility Models in Japan" described in "1. Overview of Examination Guidelines". The number of applications for utility model registration is extremely low compared with the number of patent applications, and can be currently be ignored in Japan.

Furthermore, the exact meanings of the terms "optical instrument" and "field of optical

instruments" are not clear. This document describes the examination guidelines for patent applications in the relevant technical field, considering that the technical field of applied optics and optical devices handled by the Examination Office belonging to the First Patent Examination Department of the Patent Office corresponds to the "field of optical instruments."

The handled technical fields of applied optics and optical devices according to the website of the Patent Office are as follows: duplicating or marking methods {B41M (5/, 99/)}, processes (not specifically provided for elsewhere) for producing decorative surface effects (decorating textiles D06Q){B44C (1/16-1/175}, photomechanical {G03F (7/00-7/18, 7/26-7/42)}, photosensitive materials/photographic processes {G03C (1/, 3/00 301, 5/-11/)}, recording-members {G03G (5/-11/)}, mountings, adjusting means or light-tight connections for optical elements {G02B (7/-25/)}, film-strip handling {G03B (1/-19, 29/-31/, 35/-43/) G03C (3/00, 3/00 351-3/02)}, optical elements characterized by the material of which they are made {G02B (1/-5/) G02C}, holographic processes (G03H}, electroluminescent light sources {H05B (33/)}, semiconductor devices/lasers {H01L (33/) H01S}, semiconductor devices {H01L (31/)}, light guides {G02B (6/)}, optical devices for controlling {G02B (26/-27/) G02F (1/00-1/125, 1/21-7)}, and liquid crystal/refraction elements {G02F (1/13-1/19)}. Codes put in braces correspond to those in IPC or FI.

As described in "1. Overview of Examination Guidelines," the examination guidelines were created to allow examiners to examine applications fairly, appropriately and efficiently in accordance with defined standards, and are established for the primary purpose of eliminating not only differences in the way individual examiners interpret the examination guidelines, but also the variation of examination guidelines between different technical fields. The Patent Office has therefore integrated traditional industrial examination guidelines to create "Examination Guidelines for Patent and Utility Model in Japan/" The current version of this document excludes special examination guidelines for the technical field, considering that such fields are assumed to require special handling for exceptions, including computer software, biology and medicine,. In that sense, there should not be special examination guidelines for the field of optical instruments.

On the other hand, since a patent is a creation of technical thought, judgments on novelty, inventive step, corrective requirements, written description requirements, etc., which are included in judgments of patentability, require an understanding and consideration of prior art, technical aspects, common technical knowledge, etc., and it is a matter of course that these elements will differ depending upon the technical field. As a result, therefore, it is inevitable that examination guidelines, which are judgment criteria for examiners as to patentability, are somewhat different depending on the technical field.

For this reason, the present document describes the general examination guidelines for patentability, written description requirements, corrective requirements, etc., in accordance with the "Examination Guidelines for Patent and Utility Models in Japan," and then introduces several judicial precedents belonging to the field of optical instruments, allowing the reader to understand the examination guidelines in the field of optical instruments. As described in "1.

Overview of Examination Guidelines," the examination guidelines are also revised in accordance with the storage of judicial precedents, etc., because consideration of judicial precedents related to concrete cases is considered to be effective to fully understand the examination guidelines.

3. Requirements for Description and Claims

A. Requirements for Description and Claims

The Patent System promotes protection of inventions by granting a patent right or exclusive right under certain conditions for a certain period of time to those who have developed and disclosed new technology. At the same time, it gives the public the opportunity to gain access to the invention by disclosing the technical details of the invention (disclosure-compensation theory). The protection and utilization of an invention as described above are promoted through descriptions, claims and drawings, which serve both as technical documents disclosing the technical details of an invention, and as a document of title, defining the technical scope of a patented invention accurately.

B: Requirements for Claims

The statement of claims has important significance in that the technical scope of the patented invention is determined on its basis. When the claims do not satisfy the requirements of claims, not only would a third party be unduly restricted by the patent right, but the right holder him/herself would also be involved in unnecessary disputes.

Information which the applicant deems necessary to define the invention for which a patent is sought should be fully stated in the claim without the inclusion of any unnecessary or necessary details. Since it is the applicant who determines for which invention to seek a patent, this article sets forth that the applicant shall state in the claim all information that s/he deems necessary to define the invention for which a patent is sought.

It is in the claim that an applicant states the information which s/he deems necessary to define the invention for which a patent is sought, that is, information used to specify the invention. The technical scope of the patented invention is determined on the basis of the statement of the claim, and the subject of the examination is the invention identified based on the statement of the claim.

B-1: Inventions identified based on the statement of the claim, that is, the claimed invention, should not exceed the scope stated in the detailed explanation of the invention. To state in a claim an invention that is not stated in the detailed explanation of the invention means to seek patent protection for an invention that has not been disclosed to the public.

Specifically, a determination of whether or not the claimed invention exceeds the scope stated in the detailed explanation shall be made based on a comparison and review of the claimed invention and the invention stated in the detailed explanation. The judgment should be

made while taking care not to be too restrictive on the scope of claims by the specific examples stated in the detailed explanation of the invention. A substantial correspondence relationship between the claimed invention and the invention stated in the detailed explanation of the invention shall be examined regardless of the consistency of expression.

An examination of a substantial correspondence relationship is performed by looking into whether or not the claimed invention exceeds the "scope stated in the detailed explanation of the invention in such a way that a person skilled in the art could recognize that a problem to be solved by the invention would be actually solved." In a case determining that the claimed invention exceeds this scope, the claimed invention and the invention stated in the detailed explanation of the invention do not correspond with each other.

In addition, the problem to be solved by the invention is in principle identified from the statement of the detailed explanation of the invention. However, in cases where the problem is not clearly indicated in the detailed explanation of the invention, or where the problem is clearly indicated but is unreasonable as a problem to be solved by the claimed invention in light of other parts of the statement of the detailed explanation of the invention or the extent of common general knowledge at the time of the filing, the problem should be identified while taking into account such common general knowledge as of the filing, in addition to all of the statements of the description and drawings.

When identifying the "scope stated in the detailed explanation of the invention in such a way that a person skilled in the art could recognize that a problem to be solved by the invention would be actually solved," the common general knowledge at the time of the filing should be taken into account in addition to all of the statements of description and drawings. "The common general knowledge" refers to technologies generally known to a person skilled in the art (including well-known or commonly used art), or matters clear from empirical rules. Therefore, common general knowledge includes methods of experimentation, analysis, manufacture, and technological theories, etc., as far as they are generally known to a person skilled in the art. Whether or not a certain technical matter is generally known to a person skilled in the art should be determined based on not only how many documents show the technical details, but also how much attention has been given to the technical details by such a person. "Well-known art" refers to technologies generally known in the relevant technical field, e.g., from numerous mentions in prior art documents, those widely known throughout the industry, or those well-known to the extent that present examples are not necessary. “Commonly used art” refers to well-known art that is widely used.

Cases (1) to (4) below are examples of a claimed invention exceeding the scope stated in the detailed explanation of the invention.

(1) Something neither stated nor implied in the detailed explanation of an invention is stated in the claim.

(2) The terms used in the claim and those used in the detailed explanation of the invention are inconsistent, and as a result, the relationship between the claim and the detailed explanation of the invention is unclear.

(3) The content disclosed in the detailed explanation of the invention can neither be expanded nor generalized to the scope of the claimed invention, even in light of the common general knowledge as of the filing. Points (a) to (d) below should be noted in this case.

(a) Judgment should be carefully made so as not to be too restrictive on the scope of claims as a result of the specific examples stated in the detailed explanation of the invention.

(b) A claim can be stated with expansion or generalization based on one or more specific examples in the detailed explanation of an invention. The maximum expansion or generalization varies with the characteristics of each technical field. In the field of optical instruments, for example, comparing the technical field where it is difficult to understand the relationships between a product's function, characteristics, etc. and its structure, e.g. a technical field where chemical compounds such as photo conductors belonging to G03G, and a technical field where it is relatively easy to understand such relationships (e.g., a field where mechanical and electrical technologies of cameras, etc., belonging to G03B), the maximum range expansion or generalization based on specific examples tends to be wider in the latter technical field. It is first necessary to determine to which technical field the invention to be examined pertains, and what kind of common general knowledge as of the filing exists in the relevant technical field, and then make a judgment for each application as to whether the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the claimed invention.

(c) This case is applied if a claimed invention is found to exceed the scope stated in the detailed explanation of the invention in such a way that a person skilled in the art could recognize that a problem to be solved by the invention would actually be solved. The following cases are examples found in the field of optical instruments.

Example: While an invention relating to a product defined by a numerical formula or value (e.g., a photo conductor, developer, polymer composition of polarizing film, etc.) is claimed, the detailed explanation of the invention states that a numerical formula or range of numerical values is specified for the purpose of solving the problem, but does not include a sufficient example or explanation, even in light of the common general knowledge as of the filing, so that a person skilled in the art could recognize that the problem could be solved by such numerical formula or within such range of numerical values. Therefore, the content disclosed in the detailed explanation of the invention can neither be expanded nor generalized to the scope of the claimed invention.

If, due to a deficiency of the matters stated in the detailed explanation of the invention, the content disclosed therein can neither be expanded nor generalized to the scope of the claimed invention even in light of common general knowledge as of the filing, it should be recognized that the reasons for refusal cannot be overcome even when the applicant submits a certificate of experimental results after the filing to make up for such deficiency, thereby arguing that the disclosed content can be expanded or generalized to the scope of the claimed invention.

(4) Since a solution to the problem to be solved by the invention, which is stated in the detailed explanation of the invention, is not reflected in the claim, a patent is being claimed beyond the

scope stated in the detailed explanation of the invention. Points (a) to (d) below should be noted in this case.
(a) The judgment should be carefully made so as not to be too restrictive on the scope of claims by the specific examples stated in the detailed explanation of the invention.
(b) This case is applied if a claimed invention is found to exceed the scope stated in the detailed explanation of the invention in such a way that a person skilled in the art could recognize that a problem to be solved by the invention would actually be solved.
(c) If two or more problems are identified from the statement of the detailed explanation of the invention, it is necessary that a solution to any one of those problems be reflected in the claim.

B-2: (1) The statement of claims is significant, as it is used as the basis for identifying the claimed invention that is being judged for patentability requirements such as novelty and inventive step, etc., and also used to specify the technical scope of a patented invention. Where an invention for which a patent is sought cannot be clearly identified on the basis of the statement of claims, the claimed invention cannot be examined precisely on the patentability requirements such as novelty or inventive step, etc., and the technical scope of a patented invention cannot be understood. For an invention to be clearly identified, it is necessary that the scope of the claimed invention is clear: that is, that the invention is stated in such a way that it is possible to understand whether a specific product or process falls within the scope of the claimed invention. As a premise, then, it is necessary that the details used to specify the invention are clear.
(2) When interpreting the meaning or technical meaning of such details used to specify the invention, not only the statement of the claim but also the statements of the description and drawings, as well as the common general knowledge as of the time of filing, shall be taken into account. In the identification of a claimed invention, details not stated in the claim should not be considered. On the contrary, only the details used to specify the invention as far as they are stated in the claim should be considered.
(3) Where the statement of a claim is unclear by itself, the examiner should examine whether a term in the claim is defined or explained in the description or drawings. Then the examiner should evaluate whether such definition or explanation, if any, makes the statement of the claim clear by considering the common general knowledge as of the time of filing. If the examiner deems that an invention can be clearly identified as a result of this evaluation, the statement of this claim can be said to be clear. The statement of the claim itself should not be made unclear by using ambiguous or unclear terms, or by stating the matter in only the detailed explanation of the invention, not in the claims, even though the matter could be made clear in the claims.

Points (a) to (c) below should be noted.

Various forms of expression can be used in the claim by the applicant to define an invention for which a patent is sought. For example, in the case of “the invention of a product,” various

forms of expression such as operation, function, property, characteristics, method, use, etc. can be used to specify the invention in addition to the forms of expression such as the combination or structure of products. Similarly, in the case of “the invention of a process,” the objects used for these acts or operations and others can be used to specify the invention, in addition to such form of combination of processes (acts or operations).
(b) However, since a claim should be stated in such a manner that an invention can be clearly identified from one claim, it should be noted that such definition of an invention by using various forms of expression is allowed as far as the claimed invention can be clearly identified.
(c) In cases where the statement of claims does not express a specific use but a general one, where a claim is directed to an examination of use invention, it should not be deemed unclear merely because the statement expresses a general use unless the expression makes it unclear which invention a patent is being sought for. (For example, not a “pharmaceutical agent for disease X comprising...” but a “pharmaceutical agent comprising...”) Where a claim is directed to a composition and does not include any statement to define the use or property of the composition, it shall not be deemed unclear merely because the claim does not include any definition of the use or property of the composition.

C: Written Description Requirements (Detailed Explanation of the Invention)

For the detailed explanation of an invention, the statement should be clear and sufficient for any person ordinarily skilled in the art to which the invention pertains to work the invention. According to the regulations under the relevant Patent Act article, the statement of the detailed explanation of the invention shall be made by stating the problem to be solved by the invention and its solution, and other matters necessary for a person ordinarily skilled in the art to which the invention pertains in order to understand the technical significance of the invention.

C-1: Enablement Requirement

The enablement requirement means that the detailed explanation of the invention shall be stated in such a manner that a person who has the ability to use ordinary technical means for research and development (including understanding documents, experimentation, analysis and manufacturing) and to exercise ordinary creativity in the art (that is to say, a person skilled in the art) to which the invention pertains, can carry out the claimed invention on the basis of statements of the description and drawings, as well as common general knowledge as of the filing. Therefore, if “a person skilled in the art” cannot understand how to carry out the invention on the basis of explanations of the statements of the description and drawings, as well as the common general knowledge as of the filing, then such a detailed explanation of the invention should be deemed insufficient for enabling such a person to carry out the invention. For example, if a person skilled in the art who intends to work the invention would have to conduct trial and error beyond a reasonably-expected extent, such a detailed explanation of the invention would not be deemed sufficient.

In this article, "to work the invention" means “the claimed invention can be carried out.”

Therefore, the detailed explanation of the invention must be stated in a manner sufficiently clear and complete for a person skilled in the art to carry out the claimed invention identified in the statement of claims.

However, it is not a violation of the enablement requirement when inventions that are not claimed are not stated sufficiently to meet the enablement requirement, or extra matters are stated that are unnecessary for carrying out the claimed invention.

"To enable …to work" implies being able to make and use the product in the case of an product invention, being able to use the process in the case of a process invention, and being able to make a product through a process in the case of an invention of a process for creating a product.

It is necessary to state in the detailed explanation of the invention at least one mode that an applicant considers to be the best among the “modes for carrying out the invention” showing how to carry out the claimed invention.

If, for example, an application of an invention of a lens belonging to G02B is filed in the field of optical instruments, the following example is violating the enablement requirement:

In this case, a claim is directed to "a lens system for a single-lens reflex camera consisting of three lenses, wherein the lenses are placed in order of a positive, a negative and a positive lens from the object side to the film side, wherein optical aberration of the lens system is corrected so as to be less than X % in image height H." The detailed explanation of the invention states, as a mode for carrying out the invention, an example of specific combination of refractive indices of three lenses, or a specific additional conditional formula so that the particular optical aberration can be done.

In the field of optical lenses, it is generally accepted as scientifically or technically correct that a specific combination of refractive indices that can embody a particular optical aberration is of an idiosyncratic nature. In addition, a particular statement such as the example of refractive indices or conditional formula does not teach any generalized conditions for manufacturing the corrected lens system. Thus, a person skilled in the art would be unable to understand how to carry out the parts of the claim which are not stated in the mode for carrying out the invention even by taking into account the methods of experimentation, analysis and manufacturing that are generally known to a person skilled in the art as of the time of filing.

In this example, a particular mode for carrying out the invention is stated in the detailed explanation of the invention in a manner which enables a person skilled in the art to carry out the invention. For example, however, the particular mode is idiosyncratic to the claimed invention, which indicates a case where a person skilled in the art would be unable to carry out the parts of the claim that are not stated in the mode for carrying out the invention even by taking into account the statements of the description and drawings, as well as the common general knowledge as of the time of filing.

As in this example, if (due to a deficiency of the description given in the detailed explanation of the invention) the statement of the detailed explanation of the invention cannot be deemed sufficiently clear as to enable a person skilled in the art to work the claimed

invention even in light of the common general knowledge as of the time of filing, it should be noted that the reasons for refusal cannot be overcome even when the applicant submits a certificate of experimental results after the filing to make up for such deficiency, thereby arguing that the statement is clear and sufficient.

(1) “Mode for carrying out the invention” in the case of a product invention

For an invention of a product, the definition of "carrying out the invention" is to make and use the product. Therefore, the “mode for carrying out the invention” also needs to be stated so as to enable a person skilled in the art to make and use the product. In particular, it is necessary that an invention can be identified from one claim, i.e., the claimed invention can be identified, and can be understood from the statement of the detailed explanation of the invention. In the case of an invention of a chemical compound, the invention should be deemed as clearly explained if the chemical compound is expressed either by name or by chemical structure formula. The details defining the invention of a product stated in the claim and the corresponding statement of the detailed explanation of the invention should be consistent with each other in such a manner that the claimed invention can be understood as a whole from the detailed explanation of the invention.

For the invention of a product, the detailed explanation shall be stated so as to enable a person skilled in the art to make the product. For that purpose, the manufacturing method must be concretely stated, except in cases where a person skilled in the art can manufacture the product based on the statement of the description and drawings, as well as common general knowledge as of the time of filing. Where a claim includes statements defining a product by its function or characteristics, for example, neither of which are standard or commonly used by a person skilled in the art, the detailed explanation of the invention shall state the definition of such function or characteristics, or the method for testing or measuring them, in order for the claimed invention to satisfy the enablement requirement for the claimed invention. In the technical field of chemical compounds, where it is difficult to predict the structure of a product from its function or characteristics, the statement of the detailed explanation of the invention is violating the enablement requirement if a person skilled in the art cannot understand how to make another product defined by its function or characteristics, other than products for which the manufacturing method is concretely stated in the detailed explanation of the invention, or those which can be made from these products taking into account the common general knowledge (for example, where a person skilled in the art who intends to work the invention would have to conduct trial and error, beyond a reasonably-expected extent).

A detailed explanation of a product invention shall be stated so as to enable a person skilled in the art to use it. The way of using the product shall be concretely stated, except where the product could be used by a person skilled in the art without such explicit statement based on the description and drawings, as well as common general knowledge as of the time of filing. For example, in the case of the invention of a chemical compound, it is necessary to state more than one specific use with technical significance in order to show that the chemical compound in question can be used. Also, it is required to state how each matter used to define the

invention of the product works if a person skilled in the art needs it for using the product of an invention.

However, the use of the product need not be explicitly stated in the detailed explanation of the invention where a person skilled in the art can use it by taking into account, for example, a statement of the structure of the invention disclosed as a working example or the common general knowledge as of the time of filing.

(2) “Mode for carrying out the invention” in the case of a process invention

For a process invention, the definition of "carrying out the invention" is to use the process as mentioned above. Therefore, a “mode for carrying out the invention” for a process invention must also be stated so as to enable a person skilled in the art to use the process. In particular, it is necessary that an invention be identified from one claim, i.e., the claimed invention can be identified and understood from the statement of its detailed explanation. There are various types of process inventions other than those for manufacturing a product (so-called “pure process”), such as processes for using a product, measuring or process, controlling, etc. For any type of process invention, the detailed explanation of the invention shall be stated so as to enable a person skilled in the art to use the process based on the statements of the description and drawings, as well as common general knowledge as of the time of filing.

(3) "Mode for carrying out the invention" in the case of a process invention for producing a product

In the case of a process invention for producing a product, the definition of “the process can be used” means that the product can be produced by the process. Therefore, a “mode for carrying out the invention” for an invention of a process to create a product also needs to be stated so as to enable a person skilled in the art to create the product. In particular, it is necessary that an invention can be identified from one claim, i.e., the claimed invention can be identified, and can be understood from the statement of the detailed explanation of the invention.

Various types of process inventions exist for creating a product, including processes for producing goods, assembling products, processing materials, etc. All of the above include three factors: raw materials, process steps and final product. For a process invention to create a product, the detailed explanation of the invention shall be stated so as to enable a person skilled in the art to create the product by using the process. Thus, these three factors shall in principle be stated in such a manner that a person skilled in the art can create the product based on the statements of the description and drawings, as well as common general knowledge as of the time of filing. Of these three factors, however, the final products may be understood from a statement of materials and process steps. For instance, in the case of a process for assembling a simple device where the structures of the parts are not subject to any change during the process steps, the statements on the final products may be omitted.

4. Industrially applicable invention

It has been long established in theory and practice to consider that the above provision requires an invention to be “statutory" as well as "industrially applicable." These Guidelines, in accordance with this established rule, explain these two requirements, i.e., being “statutory” and “industrially applicable.”

A: Statutory Inventions

Since it is difficult to explain in an understandable manner that an invention is statutory, these Guidelines indicate non-statutory inventions in place of explaining statutory inventions.

A-1: List of Non-statutory Inventions

Since it is not a "creation of a technical idea utilizing a law of nature," none of the following cases (1) to (5) are considered to be statutory inventions.

(1) A law of nature as such: Since statutory inventions shall utilize a law of nature, a law of nature as such, like a law of preservation of energy or a law of universal gravitation, is not considered a statutory invention.

(2) Mere discoveries and not creations: As one of the requirements for a statutory invention is to be a "creation," mere discoveries (such as discoveries of natural things or natural phenomena) for which an inventor does not consciously create any technical idea, are not considered to be a statutory invention. However, if things in nature such as chemical substances or microorganisms have been artificially isolated from their surroundings, these are creations and are considered to be statutory inventions.

(3) Cases contrary to a law of nature: If a matter necessary to define an invention involves any means contrary to a law of nature, e.g. perpetual motion contrary to the second law of thermodynamics, the claimed invention is not considered to be a statutory invention.

(4) Cases wherein a law of nature is not utilized: If claimed inventions are any laws other than a law of nature, e.g., economic laws, arbitrary arrangements (e.g., a rule for playing a game), mathematical methods or mental activities; or utilize only these laws (e.g., methods for doing business), these inventions are not considered to be statutory as they do not utilize a law of nature. However, even if a part of matters defining an invention stated in a claim does not utilize a law of nature, the claimed invention is deemed as utilizing a law of nature when it is judged that this occurs with respect to a claimed invention as a whole. That is, the characteristic of the technology is to be taken into account in judging whether a claimed invention as a whole utilizes a law of nature. This is particularly the case for inventions relating to a method for doing business or playing a game, since there are cases wherein the claimed invention that partially utilizes an article, apparatus, device, system, etc. is judged as not utilizing a law of nature when considered as a whole. Therefore, careful examination shall be required. There is possibility for an invention to be qualified as statutory where the invention is made not from the viewpoint of a method of doing business or playing a game, but from the viewpoint of computer software-related inventions such as software used in doing

business or in playing a game.
(5) Those not regarded as technical ideas: (a) Personal skills (acquired through personal experience and cannot be shared with others as knowledge due to lack of objectivity) Example: A method of throwing a split-fingered fast ball characterized by the way of holding the ball with the fingers and throwing it; (b) a written manual for instructing an operation of a machine or directing a use of a chemical substance, audio compact disc (where the feature resides solely in music recorded therein), image data taken with a digital camera, program of an athletic meeting made on a word processor, or computer program listings (Example: mere representation of program codes by means of printing them on paper, displaying them on a screen, etc.) (c) Aesthetic creations Example: paintings, carvings, etc.

B: Industrial Applicability
Since it is difficult to explain in an understandable manner that an invention is industrially applicable, these guidelines indicate industrially inapplicable inventions in place of explaining them. Here, the word "industry" includes mining, agriculture, fishery, transportation, telecommunications, etc., as well as manufacturing.

B-1: List of Industrially Inapplicable Inventions
(1) Methods of surgery, therapy or diagnosis of humans: Such methods have been termed “medical activity,” and are normally practiced by medical doctors or those who are directed by medical doctors. Methods for contraception or birth delivery are included in such methods, and even if they are practiced on animal bodies in general, the methods are deemed as being "methods of surgery, therapy or diagnosis of humans" unless it is clear that the methods practiced on a human body are explicitly excluded.
(2) Commercially inapplicable inventions: An invention concerning marketable or tradable subject matter is considered commercially applicable. On the other hand, inventions (including those applied only for personal use), such as a method of smoking, as well as those applied only for academic or experimental purposes, are regarded as commercially, and hence industrially, inapplicable.
(3) Practically inapplicable inventions: An invention that cannot be practically implemented is not considered to be "industrially applicable invention" even if it works in theory.

5. Novelty or Inventive Step
5-1. Novelty
A: Definition under the Patent Act
The provisions of Patent Act Article 29(1) are as follows.
An inventor of an invention that is industrially applicable may be entitled to obtain a patent for the said invention, except for the following cases:
(i) inventions that were publicly known in Japan or a foreign country prior to the filing of the

patent application;
(ii) inventions that were publicly worked in Japan or a foreign country prior to the filing of the patent application; or
(iii) inventions that were described in a distributed publication, or made publicly available through an electric telecommunication line in Japan or a foreign country prior to the filing of the patent application.

As described in "3. Requirements for Description and Claims," the Patent System is provided to grant an exclusive right to inventors in exchange for their disclosing their inventions. Therefore, an invention that deserves a patent should be novel. Patent Act Article 29(1)(i) to (iii) defines inventions lacking novelty.

A-1: The expression "prior to the filing of the patent application" represents a definite time, even hours, minutes or seconds before the filing, which is different from the expression "prior to the date of filing of a patent application." For example, when an invention that was publicly known in the morning is filed for application in the afternoon of that same day in Japan, the invention is deemed to be the one publicly known in Japan prior to the filing of the patent application. Also, when an invention that has been distributed abroad through publications in the morning is filed in the afternoon of that same in Japan, the invention is deemed to be that described in a distributed publication in a foreign country prior to the filing of the patent application.

A-2: The expression "invention that is publicly known" represents an invention whose content becomes known to unspecific persons as art without an obligation of secrecy. When persons who have confidential information disclose details of an invention to other persons who are not aware of its secrecy, that invention is regarded as an "invention that is publicly known," irrespective of the inventor’s or applicant’s intent to keep it secret.

A-3: The expression "invention that is publicly worked" represents an invention that has been worked in a situation where the content of the invention is or could be publicly known.

A-4: Distributed publications
The term "publication" includes documents, drawings or other similar media for the communication of information, which are duplicated to disclose the content to the public through the distribution of the publications. The term "distribution" means a situation where unspecified persons could read such publications, regardless of whether or not someone actually does read them.

A-5: Distributed point of time
A distributed point of time is estimated as shown in the following cases (1) to (3) when a publication date has been indicated:

(1) The last day of the year (December 31), when only a publication year has been indicated;
(2) The last day of the month of the year when a publication month and year have been indicated; and
(3) The day, month and year when publication day, month and year have been indicated.

A distributed point of time is estimated as shown in the following cases (4) to (6) when a publication date has not been indicated:

(4) For foreign publications with an exact date when they were brought from abroad to Japan, the date retrospectively estimated from the date when the publications were brought from abroad to Japan, considering the period normally taken for shipping the publications from abroad to Japan;
(5) For publications compiled with other materials, such as book reviews, excerpts or catalogs, the publication date of the publication estimated from the publication dates of these materials;
(6) For reprinted publications, the initial print date if any; and

In the examination practices, when a filing date and publication date are the same, a distributed point of time is not deemed to be prior to the filing unless the filing is obviously after the publication.

A-6: Inventions that have been described in publications

The expression "inventions described in publications" means inventions recognized from the descriptions in the publications, or the equivalents of such descriptions. The expression "equivalent to such descriptions" means those that persons can derive from the descriptions based on their common general knowledge as of the filing.

B: Approaches for Determining Novelty

Inventions subject to analysis of novelty are "claimed inventions." The presence of novelty is determined based on whether or not the claimed inventions are included in the inventions provided in Article 29(1) (i) to (iii). When there are two or more claims in the scope of claims, each claim is analyzed.

B-1: Identifying Claimed Inventions

Claimed inventions are identified based on the descriptions of the claims. The descriptions of the specifications and drawings, and the common general knowledge as of the filing, are taken into consideration for the analysis of the meaning of words.

In particular, inventions are identified as shown in the following cases of (1) to (7).

(1) Clear descriptions in the claims are interpreted as they are to identify the claimed inventions. The wording of the claims is interpreted as the meaning in the normal sense.
(2) When the invention is clearly described in the claims and the meaning of the words in the claims are defined or explained in the specification and drawings, the specifications and drawings are taken into consideration to interpret the words.
(3) When the description in the claims is not clear enough to be understood, and the description

could be specified by interpreting the words in the claims based on the specifications, drawings and technical knowledge as of the filing, they are taken into consideration to identify the invention.
(4) Claimed inventions are not identified when the inventions are not specific, even when taking the description in the specifications or drawings and the technical common knowledge as of the filing into consideration.
(5) Even when an invention identified by the claims does not correspond to the invention described in the specification or drawings, the claimed invention is not identified by the specification or drawings alone without analyzing the claims.
(6) Matters not described in a claim must be treated as if they do not exist in the claim, even though they are described in the description or drawings.
(7) When an invention is identified, matters described in a claim must always be treated as if they exist in the claim.

B-2: Identifying the Invention Written in Specific Expressions
(1) Descriptions of claims wherein products are defined by their workings, functions or characteristics, i.e., functions or characteristics. Descriptions are interpreted, in principle, as representing all products that have the functions or characteristics.
(2) When descriptions in claims wherein products are defined by the limitation of use: Descriptions of claims wherein products are defined by the limitation of use in a word like "for use as" are analyzed to understand how the limitation of use works to define the claimed invention, in consideration of the descriptions in the specifications and drawings, and common general knowledge as of the time of filing. However, chemical compounds limited by use described in a phrase like "for use as," such as "a chemical compound Z for use as Y," which represents a limitation of use, generally indicate mere usefulness of the compounds, and are interpreted as simple chemical compounds without limitations of use, such as the compound Z.

Generally, a use invention is interpreted to be an invention based on the discovery of an unknown attribute of a product, and finding of the product's adaptability of novel use. When the claimed invention provides a limitation of use in the claims and is considered to be an invention based on the discovery of an unknown attribute of a product and finding of the product's adaptability for novel use derived from the attribute, it is appropriate to analyze the invention from the additional aspect of the limitation of use since the limitation of use may define the claimed invention. The invention could be novel as a use invention even if the product per se is already known (for example, "compositions comprising a specific quaternary ammonium salt for use in antifouling for ship bottoms"). However, the novelty of the claimed invention is denied when a novel use of the product is not considered to be provided, based on common general knowledge in the area as of the filing, even with a discovered unknown attribute. In addition, when the claimed invention and the cited invention (which are inventions of products different in the expressive aspect of the limitation of use) cannot be distinguished from each other by use based on the analysis of common general knowledge in the area as of

the filing, the novelty of the claimed invention is denied.
(3) Claims defining products by the manufacturing processes (product-by-process claims): It is understood that claims defining products by the manufacturing processes refers to definitions that represent products per se that are gained as final products, unless otherwise interpreted. The novelty is denied when other manufacturing processes are able to produce a product identical to that of the claimed manufacturing process, and the product is publicly known.

B-3: Identifying cited inventions (an explanation of inventions that are publicly known and worked is omitted; only inventions described in publications are explained)
(1) Inventions described in publications are identified based on the descriptions in the publications. The descriptions are able to be interpreted based on common general knowledge. Any facts that a person skilled in the art could derive from the description in the publications based on common general knowledge as of the filing date, or equivalents to such descriptions in the publications, could also be a basis for identifying the inventions described in publications. Inventions that a person skilled in the art are not able to understand based on the descriptions in the publications, or equivalents to such descriptions, are not included in either "inventions described in publications" or "cited inventions."

When an invention of a product or process is not sufficiently described for a person skilled in the art to manufacture the product or use the process based on the descriptions of the publications and common general knowledge as of the date of filing, the invention is not included in "cited inventions." For example, when a chemical substance is described in a publication merely by its name or chemical formula, and the description does not sufficiently describe the manufacturing process so that person skilled in the art is able to manufacture the substance on the basis of common general knowledge as of the date of filing, the chemical substance is not included within the "cited inventions."
(2) Inventions described within generic concepts and more specific concepts for identifying cited inventions: Inventions providing generic concepts are identified when the cited inventions provide more specific concepts, which are considered to already show the inventions applying "ideas belonging to the same family or types or having a common nature" to identify them. Inventions providing more specific concepts are not identified when the cited inventions provide generic concepts, since the inventions are not considered to be those providing more specific concepts. However, the inventions are identified when they are derived from common general knowledge.

B-4: Determining the Novelty of a Claimed Invention
(1) When no difference between the matters used to specify the invention in the claimed invention and those used to specify the cited inventions is found through comparison, the claimed invention not novel. Any difference between these two matters involves the novelty of the claimed inventions.

(2) A claimed invention with formal or substantial alternatives in the aspect to define the invention is not considered to be novel when no difference is found between the claimed invention, in which one of the alternatives is presumed to be an aspect to define the invention, and the cited inventions.

5-2. Inventive Step

A: Definition under the Patent Act

The provisions of the Patent Act Article 29(2) are as follows:

"Where, prior to the filing of the patent application, a person ordinarily skilled in the art of the invention would have been able to easily make the invention based on an invention prescribed in any of the items of the preceding paragraph, a patent shall not be granted for such an invention notwithstanding the preceding paragraph."

Granting patent rights to inventions that ordinary engineers are easily able to create does not aid the progress of technology, and also actually prevents progress. The Provision of Patent Act Article 29(2) aims to exclude such inventions from being granted patents.

A-1: The expression "an invention prescribed in any of the items of the preceding paragraph" means any of the inventions publicly known or publicly worked, disclosed in distributed publications, or made available to the public through electric telecommunication lines in Japan or abroad prior to the filing of the patent application.

A-2: The expression "a person ordinarily skilled in the art of the invention," generally called "a person skilled in the art," means a person who has common general knowledge of the field of the invention as of the time of filing, is able to use ordinary technical means for research and development, is able to exercise ordinary creativity in selecting materials and changing designs, and is able to comprehend all technical matters for state of the art technology in the field of the claimed invention. In addition, a person skilled in the art is able to comprehend all technical matters in the field relevant to the problems to be solved by the invention. Further, for some inventions, it is appropriate to consider these persons skilled in the arts to be a "team of experts" in several fields, rather than one individual person.

A-3: The expression "have been able to easily make the invention" means that a person skilled in the art could easily arrive at the claimed invention by exercising their ordinary creativity on the basis of the cited inventions existing prior to the filing of the application.

B: Approaches for Determining Inventive Step

Inventions subject to analysis of inventive step are novel "claimed inventions." The presence of an inventive step is determined based on whether or not it could be reasoned that a person skilled in the art would be able to easily arrive at the claimed invention based on the cited inventions, by constantly considering the process a person skilled in the art may take based on

an exact understanding of the technical field of the claimed invention as of the time of filing. For details, one of the cited inventions most suitable for the reasoning is selected, and the claimed invention and cited inventions are compared to find the correspondences and differences between the matters used to specify the claimed and the cited inventions. Reasons for denying the presence of an inventive step in the claimed invention are then sought, based on details of this or other cited invention(s) and existing common general knowledge. This reasoning may be conducted from various and broad viewpoints. As a result of this approach, the inventive step of the claimed invention is denied when the reasoning is valid and admitted when the reasoning is invalid.

B-1: Reasoning

1) Selection from optimum material, workshop modification etc.; Claimed inventions that are composed of optimum materials from publicly known materials, optimally or preferably modified numerical ranges, materials replaced by equivalents, or designs modified along specific application of techniques to solve certain problems are regarded to be arts derived from the ordinary creativity of a person skilled in the art. When the difference from the cited invention lies in only one of these modifications, the claimed invention is usually regarded as obvious to a person skilled in the art, unless other grounds for presuming the presence of the inventive step in the claimed invention is provided.

(2) Mere aggregation: Claimed inventions are included in those that would be obvious to a person skilled in the art of ordinary creativity, when the components of the claimed inventions whose functions and working are not correlated, and the claimed invention has merely aggregated components or is merely a combination of the components, unless other grounds for presuming the presence of the inventive step in the claimed inventions are provided.

(3) Probable cause or motivation

(3-1) Relation of technical fields: Inventions to which any technical means of related technical fields is attempted to be applied to solve the problems in the inventions are inventions created by exercising the ordinary creativity of a person skilled in the art. For example, a technical means that could be replaced by or added to the art described in related technical fields could be a strong ground for showing that a person skilled in the art could easily arrive at the claimed invention based on the means. A judicial precedent was judged as shown below in the field of optical instruments.

Example: A camera and an automatic strobe light are typically used together, and are closely related. Therefore, applying the incidence control element of a photometric circuit for the camera to a photometric circuit for the automatic strobe light would be an idea that a person skilled in the art could easily arrive at unless any outstanding structure is adopted for applying the element.

(3-2) Close similarity of problems to be solved: A close similarity is found between problems to be solved in the inventions, providing that strong grounds exist for the reasoning that the claimed invention is an idea to which a person skilled in the art could arrive by applying or

combining the cited inventions. When the cited documents are not considered to be involved in the problem to be solved that is intended to be similar to the claimed invention, analysis of the inventions based on the state of the art is necessary to see the obviousness of the problem or see if the problem is an idea that a person skilled in the art could easily conceive. The novelty of the claimed inventions, which are based on the cited inventions providing other problems to be solved, may be denied when it is reasoned that a person skilled in the art could easily conceive the matter used to specify the claimed inventions through other approaches, regardless of the difference between the problems to be solved by these inventions. This approach is also applied to inventions whose problems are not found, such as those resulting from discoveries found through trial and error.

(3-3) Commonality of working or functions: Commonality of working or functions between matters used to specify the claimed invention and those used to specify the cited inventions is a strong base for showing that a person skilled in the art could derive the claimed invention by applying or combining the cited inventions.

(3-4) Implications of cited inventions: Implications shown in the cited inventions relevant to the claimed invention are strong grounds for reasoning that a person skilled in the art could easily arrive at the claimed invention from the cited inventions.

(4) Advantageous effects

Advantageous effects of the claimed invention explicitly described in the specifications etc., are taken into consideration as facts used for confirming the presence of inventive step. "Advantageous effects" refers to effects that are more advantageous to the claimed invention than the cited inventions, and that are selected from effects derived from the matters used to specify the claimed invention.

(4-1) Analyzing more advantageous effects: The effects more advantageous to the claimed invention than the cited inventions are attempted to be analyzed for reasoning that a person skilled in the art could have easily arrived at the claimed inventions. The inventive step of the claimed inventions is denied when the fact that a person skilled in the art could have easily arrived at the claimed inventions is sufficiently reasoned, regardless of the presence of the advantageous effects. However, some inventive step may not be denied when the advantageous effect is distinctively beyond the expectation on the basis of the state of the art.

For example, it is presumed that the inventive step is present in the claimed inventions even if the matters used to specify the cited and the claimed inventions are similar; if a combination of several cited inventions appears to be something that a person skilled in the art could easily conceive, if the effect advantageous to the claimed inventions has a different nature from those of the cited inventions; or if the effect has the same quality as but superior to that of the cited inventions, and a person skilled in the art is not able to anticipate such an effect from the state of the art. Particularly for claimed inventions that belong to a technical field where it is difficult to anticipate effects based on the structures of the products, effects that are more advantageous to the claimed inventions than the cited ones is important in order to confirm the presence of the inventive step. A judicial precedent is judged in the field of optical instruments,

as shown below.

Example: The semiconductor layer of the photoelectric conversion semiconductor device, in which a silicon carbide is adopted as a material of the semiconductor region on the light-irradiated side, is easily conceived from the viewpoint of reducing light absorption in the region. Even with the effect of the region that prevents the i-type property of the second semiconductor region from deteriorating, this effect does not affect the determination that adopting a silicon carbide is an idea easily conceived.

(4-2) Analyzing the effects claimed in written opinions, etc.: The effects claimed or proven in written opinions are analyzed when the specifications provide effects that are more advantageous to the claimed inventions than the cited inventions, and when person skilled in the art is able to presume effects more advantageous to the claimed invention than the cited inventions from the descriptions of the specifications or drawings, although the advantageous effects are not explicitly described. However, the effects claimed or proven in the written opinions, which a person skilled in the art is not able to presume from specifications, etc., should not be analyzed.

(4-3) Effect of selection inventions: Selection inventions are inventions belonging to technical fields where it is difficult to anticipate the effects of inventions based on the structures of the products, and out of the cited inventions providing generic concepts disclosed in publications or providing substantial or formal options, the inventions providing more specific concepts subdivided under the generic concepts or inventions in which some of the options are presumed to specify the claimed inventions, whose novelty is not denied by the cited inventions, are selected. Inventions that are not regarded to be disclosed in publications are potential selection inventions. The claimed invention involves an inventive step when it provides advantageous effects that are not disclosed in publications, and that are different from those included in the inventions providing the generic concepts in publications or prominent even with the same type of effect, which a person skilled in the art could not expect on the basis of the state of the art.

(4-4) Claimed invention providing numerical limitations: Numerical limitation inventions are inventions that provide descriptions limiting the inventions numerically by numerical ranges. Such inventions are considered to be as follows: Claimed inventions providing the optimized or idealized numerical ranges in a trial way usually do not involve an inventive step, since they provide the arts achieved by the ordinary creativity of a person skilled in the art. However, the claimed invention involves an inventive step when it provides advantageous effects within a range of the limited numerical values, which are not disclosed in publications and provide different characteristics from those of the cited inventions disclosed in the publications, or which are distinctive effects having the same characteristics as, but distinctively superior to, those in the publications, from which a person skilled in the art could not anticipate the claimed inventions, even considering the state of the art. In addition, the prominence of advantageous effects shall be provided within a complete range of the numerical values.

(5) Notes for Determining the Inventive Step of Claimed Inventions

(5-1) Obstructive factor: Publications can be said to be inappropriate materials as cited inventions when they provide descriptions that hinder a person skilled in the art from easily arriving at the claimed invention. However, the publications can be said to be appropriate materials as cited documents when the reasoning for arriving at the claimed invention could be conducted based on other viewpoints, such as related technical fields or common working or functions, even if the publications provide the descriptions that hinder a person skilled in the art from easily arriving at the claimed invention at first glance (for example, if the problems to be solved are different).
(5-2) Well-known or commonly used arts, should be submitted as references for the claimed invention since they are important materials constituting the state of the art, which can be grounds for a notice of reasons for refusal to a maximum extent, unless they are so well-known that submission seems unnecessary.
(5-3) Prior arts described in the specifications of the claimed inventions could be cited as components of the state of the arts as of the time of filing when the applications admit that the prior arts are publicly known.
(5-4) Inventions filed for processes involving manufacturing products and use of the products involve inventive step when the products per se involve inventive step in principle.

6. Expanded Novelty

Even if the invention stated in the description or drawings is stated in documents other than the scope of claims, the contents thereof are disclosed to the public through issuance of the gazette containing the patent or publication of application. Therefore, even if a later application is filed before issuance of the gazette or publication of application of an earlier application, an invention identical to the invention stated in the description or drawings of an earlier application does not disclose any new technology even through the gazette or publication of application. Granting a patent to such an invention is not appropriate in view of the purpose of the patent system to protect inventions in compensation for the disclosure of new inventions.

Therefore, the Patent Act in Japan rejects the later application in accordance with the provisions of Article 29(2).

"This article refers to an invention claimed in a patent application that is identical to an invention or device (excluding an invention or device made by the inventor of the invention claimed in the said patent application) disclosed in the description, scope of claims, or drawings (in the case of a foreign-language application under Article 36bis(2), foreign language documents as provided in Article 36bis(1)) originally attached to another patent application or registration application of a utility model filed prior to the date that the said patent application was filed and published after the said patent application was filed in the patent gazette under Article 66(3) of the Patent Act (hereinafter referred to as “gazette containing the patent”) or in the utility model bulletin under Article 14(3) of the utility Model Act (Act No. 123 of 1959) (hereinafter referred to as “utility model bulletin”) describing

matters provided for in each of the paragraphs of the respective Article or the publication of the patent application. In this case, a patent shall not be granted for the invention notwithstanding Article 29(1). Provided, however, that this shall not apply where the applicant of the said patent application and the applicant of the other application for a patent or for registration of a utility model are the same person, at the time of the filing of the said patent application."

(1) Another application: In Article 29(2) of the Patent Act, an earlier application is referred to as "another patent application or registration application of a utility model filed prior to the date that the said patent application was filed," that is, "another application." Another application for a patent is a later application, that is, it is filed prior to the day before the date that the said patent application was filed (a priority date in case of an application, claiming a priority), and published after the said patent application was filed in the gazette containing the patent, the publication of the application or the utility model bulletin.

In cases where another application is a divisional application, a converted application or a patent application based on a utility model registration, its filing date shall be an actual filing date without retroacting. In cases where another application claims priority, the inventions stated in the description of an application filed, which could be a basis for claiming priority, as well as the description, the scope of claims, or drawings attached to an application filed, shall be deemed to have been filed on the priority date.

(2) Identical to an invention or a device disclosed in the originally attached description, etc., of another application: The phrase “The claimed invention is identical to an invention or a device stated in the originally attached description, etc., of another application” means that the matters used to specify the claimed invention are not different from those used to specify an invention or device stated in the originally attached description of another application, or that there is a difference between them, but that it is a minor difference in embodying the means for solving the problem. Explanations for identifying a claimed or cited invention, and determining whether a claimed invention is identical, are omitted here since they are the same as those for determining the novelty.

(3) The expression "The person who created the invention or device is identical to the inventor of an invention claimed in another application (the person who created the device when another application is an application for a registration of a utility model) means that indications of all inventors stated on the application form are exactly the same as those listed on another application.

(4) The expression "The person who filed the patent application is identical to the person who filed another patent application" means that as of the filing date, all persons who filed the patent application are exactly the same as all the persons who filed another patent application.

7. Amendment Requirements

A: Significance of Amendment

Ideally, all necessary documents, including application forms, descriptions, etc., should be

fully prepared at the time of filing. From the viewpoint of the first-to-file principle, however, it is not realistic to desire applicants (who are in a hurry to file their applications) to do so. If a patent is not granted to a useful invention on the ground of minor flaws in written description requirements, it would be unfair to the applicant and unprofitable for society. Therefore, an applicant is permitted to amend statements of various types of documents voluntarily or upon invitation of the Patent Office. Amendment is generally classified into a so-called format amendment for amending stated matters, etc., of an application form and a so-called substantial amendment for amending the content of claims. Only a substantial amendment carried out by the examiners is explained here.

B: Restriction on amendment

Amended matters become effective retroactively as of the filing. That is, amended matters are treated as if they were stated at the beginning of the filing. Therefore, unlimited permission of amendment may be inconsistent with the first-to-file principle. In addition, since amendment changes the claims and the content of the description, etc., unlimited permission of amendment may cause a delay in the examination process in the Patent Office. Therefore period restrictions and content restrictions are imposed on amendments.

B-1: Period restriction

The applicant is able to amend the certificated copy of the examiner's decision anytime before it is served.

However, after a notification of reasons for refusal is received, amendment is only permitted (a) during the period of submitting opinions in writing specified by a notification of reasons for refusal (or for 60 days). For an overseas resident, however, the period is three months (and can further be extended by up to three months), or (b) when appeal against examiner's decision of rejection is requested.

B-2: Content restriction

(1) General principle: Any amendment that includes content beyond the scope of matters stated in the originally attached description (the amendment including new matter) is not permitted. Here, the originally attached description refers to a description, claims and drawings, where "the matters stated in the originally attached description" refer to technical matters introduced to a person skilled in the art by totalizing the whole statement in the originally attached description. If the amendment does not introduce new technical matters in connection with the technical matters introduced in this way, it can be said that the amendment shall be made within a scope of matters stated in the originally attached description.

Making an amendment not only to matters explicitly stated in the originally attached description, but also matters obvious from the statement in the originally attached description that are not explicitly stated, does not introduce new technical matters and is therefore permitted. In order to find that amended matters are obvious from the statement in the

originally attached description, it is required that a person skilled in the art who contacts them evidently understands the meaning thereof and understands them as if they were stated therein.
(2) Amendment to respond to a final notice of reasons for refusal and amendment with appeal against examiner's decision of rejection requested: Amendments are limited to those stated in the general principle, and those for the purposes in the following cases: (a) removal of claims, (b) restriction of the scope of claims, (c) correction of errors, and (d) clarification of an ambiguous statement.

C: Restriction of the scope of claims

If the matters used to specify the invention stated in the scope of claims after an amendment include contents beyond the scope of matters stated in the originally attached description, the amendment is not permitted.

(1) Making a generic concept more specific

If amending a matter that specifies the invention of claims to a generic concept (including removing matters used to specify the invention) and matters other than those stated in the originally attached description are added, or if amending it to a more specific concept (including adding matters used to specify the invention), and if matters other than those stated in the original description are individuated, the amendment is not made within the scope of matters stated in the original description, and is not permitted. If changing the matters used to specify the invention in claims adds matters other than those stated in the original description, the amendment is not made within the scope of matters stated in the original description, and is not permitted.

If removing part of the matters used to specify the invention in claims and amending them to make a generic concept, or if limiting part of the matters used to specify the invention in claims so that the limited matters fall under a generic concept of the matter stated in the original description, the amendment does not introduce new technical matters when the amendment does not clearly add any new technical significance. This is even the case when the amended matter does not fall under either “matters explicitly stated in originally attached description.” or “matters obvious from the statement in the originally attached description,” and this amendment is therefore permitted.

(2) Numerical limitation

An amendment for adding numerical limitation is permitted if the numerical limitation is within the scope of matters stated in the originally attached description. For example, if the numerical limitation "preferably 24 to 25 degrees" is explicitly stated in the detailed description of the invention, the numerical limitation can be introduced in the claims.

If examples of 24 degrees and 25 degrees are stated, this cannot be a direct basis for permitting an amendment of the numerical limitation of "24 to 25 degrees." However, it may be found that a specific scope of 24 to 25 degrees was referred to in light of the whole statement of the originally attached description. (In cases where, for example, 24 degrees and 25 degrees are found to be stated as border values of upper and lower limits of a certain

consecutive numerical scope in light of the statement of the problem, effect, etc.). In this case, unlike those of absence of an example, it can be evaluated that the numerical limitation was originally stated, and new technical matter is not being introduced. The amendment is, therefore, permitted. Moreover, if, for example, amendment changes a minimum value of a numerical range stated in claims to provide a new numerical range, and the minimum value of the new numerical range was stated in the originally attached description, while the numerical range after amendment is included in the numerical range stated in the originally attached description, the said amendment is permitted.

(3) Disclaimer

The disclaimer refers to claims explicitly stating exclusion of only part of the matters included in the claimed invention from matters stated in said claims, while leaving the expression of the statement of matters stated in the claims. A disclaimer, which excludes matters stated in the originally attached description through amendment while leaving the expression of the statement of matters stated in the claims before amendment, is permitted if the disclaimer after exclusion is included within a scope of matters stated in the originally attached description. Amendment is permitted in the following examples: (a) If the claimed invention overlaps with the prior art and is thus likely to lose novelty, etc., making an amendment to exclude only the overlap while leaving the expression of the statement of matters stated in claims before amendment; or (b) if the claimed invention includes the term ‘human being’ and thus does not satisfy the requirement for "industrially applicable invention," and the said reason for refusal is therefore eliminated by exclusion of the term “human being,” making an amendment to exclude only the term “human being” while leaving an expression of the statement of matters stated in claims before amendment.

D: Amendment of the detailed description of the invention

If matters stated in the detailed description of the invention after amendment include content beyond the scope of matters stated in the originally attached description, amendment is not permitted.

(1) Addition of contents of the prior art document

An amendment to add the prior art document information in the detailed description of the invention and add contents stated in the document does not introduce new technical matter, and is permitted. However, an amendment to add information on evaluation of the invention, such as a comparison with the invention in the application or information on implementation of the invention, or an amendment to add contents stated in the prior art document to eliminate defects of statements, introduces new technical matter and is not permitted.

(2) Addition of examples

Generally, adding an example of the invention or adding materials falls under amendment beyond the scope of matters stated in the originally attached description. For example, in a patent application for a rubber composition consisting of several ingredients, an amendment to add the information that “a specific ingredient may be added” is not permitted.

(3) Addition of effect of the invention

Generally, an amendment to add effects of the invention falls under an amendment beyond the scope of matters stated in the originally attached description. However, if the originally attached description explicitly states the structure, operation, or function of the invention and the said effect is an obvious matter from this statement, an amendment is permitted.

(4) Elimination of mismatched statement and amendment of unclear statement

If two or more kinds of inconsistent statements are present in the description, and it is evident to a person skilled in the art from the statement of the originally attached description which of them is correct, an amendment to correct the statement is permitted. Moreover, even if the statement is not in itself unclear, an amendment to make it clear is permitted if its inherent meaning is evident to a person skilled in the art from the statement of the originally attached description.

E: Amendment of drawings

Even an amendment of drawings is permitted if the amendment is within the scope of matters stated in the originally attached description.

8. Priority

8-1. Priority under the Paris Convention

A: Purport

Where patent applications are filed in multiple countries for the same invention, simultaneous filing of patent applications places a great burden on an applicant because of the preparation of translations, requirements of different procedures for each country, etc. To reduce the burden on an applicant, the Paris Convention prescribes the priority as the right of a person who has filed a patent application in one of the member countries of the Paris Convention (the first country) to receive the same treatment as received when the patent application is filed in the first country in determination of novelty, inventive step, etc., for patent applications in another member country of the Paris Convention (the second country) regarding the content described in the filing documents of the first patent application, provided that the date of filing the first patent application in the first country to the date of filing the patent application in the second country is within 12 months.

B: Requirements

B-1 Person who can claim priority: A person who can claim priority shall be a national of one of the member countries of the Paris Convention, and who has regularly filed a patent application in one of the member countries of the Paris Convention or his/her successor.

B-2: Period when priority can be claimed (the period of priority): The period of priority shall be 12 months from the date of filing the first application in the first country. The period of priority shall start from the date of filing the first application, and the day of filing shall not be

included in the period.

B-3: Application that can serve as a basis of priority claim: An application claiming priority shall be an application that is equivalent to a national application under the domestic legislation of any country of the Union, or a regular national application under bilateral or multilateral treaties concluded between countries of the Union and that is adequate to establish the date on which the application was filed, whatever may be the subsequent fate of the application. Only the first application in one of the member countries of the Paris Convention can serve as the basis of a priority claim.

C. Effects of priority claim

No subsequent filing shall be invalidated by reason of any acts committed in the period from the date of filing the first application in one of the member countries to the date of filing a subsequent application claiming priority in another member country, in particular, another filing, or the publication/exploitation of the invention. Such acts also cannot give rise to any third–party right. Since the priority has such effects among inventions relating to a patent application in Japan claiming priority under the Paris Convention for the invention disclosed in the filing documents (description, scope of claims and drawings) of the patent application in the first country which served as a basis of priority claim concerned, the patent application concerned shall be treated as if it has been filed on the date of filing of the first application, in applying the provisions of the Patent Act in connection with substantive examination. The date of filing of the first application in these cases is referred to as the priority date.

The effects of priority claim shall be determined, in principle on a claim-by-claim basis. Also, where the matters for defining the invention in one claim are expressed by formal or actual alternatives, the effects of priority claim shall be determined by each alternative. Furthermore, where modes for carrying out the claimed invention are newly added, the effects of priority claim shall be determined for each newly added part.

D: Partial priority or multiple priorities

An application in Japan sometimes includes one or more elements that were not included in the first application (partial priority). In this case, the Paris Convention recognizes the claim of priority. In addition, the priority under the Paris Convention can be claimed and filed based on the multiple first applications (including the applications filed in two or more countries), respectively (multiple priorities).

D-1: Partial priority: Where the application in Japan claims priority based on the first application, and the invention relating to a part of claims or alternatives of the application in Japan is disclosed in the first application, the presence/absence of the effects of priority claim based on the first application corresponding to the parts concerned shall be determined.

D-2: Multiple priorities: Where the application in Japan claims priority based on two or more first applications, the invention relating to a part of claims or alternatives of applications in Japan is disclosed in the first application and the invention relating to another part of claims or

alternatives is disclosed in the first application. The presence/ absence of the effects of priority claim based on the first application corresponding to each part shall be determined.

Where the application in Japan claims priority based on two or more first applications, and invention-defining matters of the application in Japan are commonly disclosed in the first applications, the examination should be made considering the date of filing of the earliest application that discloses the matters of the invention as the priority date.

Where the claimed invention of the application claiming priority based on two or more first applications is a combination of the matters disclosed within the entire filing documents of the first applications, and the combination is not disclosed in either of the entire filing documents of the first applications, the effects of priority claim based on either of the applications are not recognized.

E: Cases where an application that serves as the basis of priority claim claims priority

Where the earlier application that served as the basis of priority (the second application) claims priority based on the application filed prior to the above application (the first application), for the parts disclosed in any of the filing documents of the first application in the second application, the second application cannot be "the first application." Therefore the effects of a priority claim are not recognized for those parts that have been already disclosed in the first application, and the effects of priority claim are recognized only for the parts that have not been disclosed in any of the filing documents of the first application.

F: Treatment of priority claim in the examination

In an application claiming priority, the effects of priority claims are determined only when a prior art document that can be the ground of reasons for refusal is found during the period from the date of priority claim to the date of filing of the application in Japan. Where a reason for refusal arises because the effects of a priority claim are not recognized for the invention relating to the patent application concerned, the notification of reasons for refusal shall specify the claims, and describe that the effects of priority claim are not recognized, along with the reasons. When a written opinion is submitted or a correction of description, etc., is made, the effects of the priority claim shall be newly determined.

8-2. Internal priority

A: Purport

In the internal priority system, in cases where the patent application claiming priority is filed as a comprehensive invention (later application) containing the invention of its own patent application or application for utility model registration that has been already filed (earlier application), for inventions stated in the description etc., of the earlier application among the later application, treatment is recognized to deem the later application to have been filed at the time when the earlier application was filed, in the case of the application of Article 29, etc. The system brought about the following results: a patent application can be filed as a comprehensive invention collecting the content of the invention concerned, and the later

improved invention so that the results of technical development can be easily and smoothly protected as a patent right in a complete form. The effects of designation are recognized also in Japan, even where Japan is designated in the PCT international application (self designation) claiming a priority based on the earlier application.

B: Requirements

B-1: Persons who can claim priority: Persons who can claim priority are applicants of earlier applications (including their successors) who desire a patent. Therefore, the applicants of the earlier and the later application shall be the same at the time when the later application is filed. Moreover, in case of application by multiple applicants, all applicants of the earlier and later applications shall be completely the same.

B-2: Period when priority can be claimed (period of priority): The period shall be one year from the filing date of the earlier application.

B-3: Application that can serve as a basis of priority claim: The earlier patent application, patent application, or application for utility model registration, except in the following cases of (1) to (4), can serve as the basis of internal priority claim (an application for design registration cannot serve in this capacity). (1) Where the earlier application is a new patent application divided out from or converted from a patent application, or a new patent application based on a utility model registration; (2) Where the earlier application has been abandoned, withdrawn or dismissed at the time when the patent application concerned is filed; (3) Where the examiner's decision or the trial decision on the earlier application has become final and binding at the time when the later patent application concerned is filed; (4) Where the registration of establishment of the utility model right has been effected at the time when the later patent application concerned is filed.

C: Effects of priority claim

For inventions claimed in a patent application containing a priority claim, those that are stated in the descriptions originally attached to the request of an earlier application on which the priority claim is based shall be deemed to have been filed when the earlier application was filed, in determination of novelty and inventive step, etc. It cannot be said that the claimed invention of the later application claiming priority is disclosed in the description originally attached to the request of the earlier application unless the claimed invention of the later application is within the scope of matters disclosed in the description, that was originally attached to the request of the earlier application. It is determined whether or not the claimed invention of the later application is within the scope of matters disclosed in the description originally attached to the request of the earlier application, depending on the examples of new matters explained in "7. Amendment Requirements, B: Restriction on Amendment, and B-2: Content Restriction."

The effects of priority claim shall, in principle, be determined on a claim-by-claim basis. Also, where the matters for defining the invention in one claim are expressed by formal or

actual alternatives, the effects of the priority claim shall be determined by each alternative. Furthermore, where modes are newly added for carrying out the claimed invention, the effects of priority claim shall be determined by each newly added part.

D: Withdrawal of an application that serves as the basis of priority claim

The earlier application that served as the basis of the priority claim shall be deemed to have been withdrawn when one year and three months has lapsed from the filing date of the earlier application. However, this shall not apply in cases where the earlier application has been waived, withdrawn or dismissed; where the examiner's decision or trial decision on the earlier application has become final and binding; where the registration establishing a utility model right with respect to the earlier application has been effected; or where all priority claims based on the earlier application have been withdrawn. The applicant of a patent application containing a priority claim may not withdraw the priority claim after the period of one year and three months has passed from the filing date of the earlier application. In addition, where the patent application containing a priority claim is withdrawn within one year and three months from the filing date of the earlier application, the said priority claim shall be deemed to have been simultaneously withdrawn.

E: Others

Since cases where an application that serves as the basis for partial priority or multiple priorities, or for priority claim are treated as cases of treatment of claim of priority in examination under the Paris Convention, the explanation is omitted.

9. Examples Belonging to the Field of Optical Instruments

As explained in "2. Field of Optical Instruments," several precedents belonging to the field of optical instruments are introduced here to understand the examination standards in the field of optical instruments based on review of the concrete precedents.

Precedent 1: Precedent related to "3. Requirements for Description and Claims, B. Requirement for Claims": In the example indicated, where a parameter invention uses a product specified by using a numerical formula containing a parameter as a constituent element, in order to comply with the support requirement, the scope indicated by the numerical formula and meaning of the technical relation with the effects (performance) obtained shall be stated in the detailed explanation of the invention in such a manner that a person skilled in the art can understand it even without disclosure of specific examples, or in such a manner that the desired effects (performance) can be obtained within the scope indicated by the numeric formula.

Judgment: Hei 17 (Gyo-Ke), No. 10042, Grand Panel case on the action to seek rescission of the JPO decision to revoke the patent

Item in the Patent Office: Opposition 2003-70728

Patent No. 3327423 (TOKUGANHEI 5-287608)
IPC: G02B 5/30
[Claims]
[Claim 1] A method of manufacturing a polarizing film by uniaxially stretching a polyvinylacohol-based raw material film, wherein the polyvinylacohol-based raw material film has a thickness in the range of 30 to 100 μm and the relationship between the complete dissolution temperature (X) in hot water and equilibrium swelling degree (Y) thereof, is defined by the following expressions:
$Y > -0.0667X + 6.73$ (I)
$X \geq 65$ (II)
wherein X is the complete dissolution temperature (°C) in hot water of a film piece with dimensions of 2 cm X 2 cm;
and Y is the equilibrium swelling degree (weight fraction) when a film piece with dimensions of 10 cm x 10 cm is dipped in a constant-temperature water-bath of 20°C for 15 minutes for swelling and then is dried at 105°C for 2 hours, and is calculated from the expression of (film weight after dipping)/(film weight after drying); and the polyvinylalcohol-based raw material film is uniaxially stretched to 1.2 to 2 times the original size thereof in a dyeing treatment process and further to 2 to 6 times the original size thereof in a boron-compound treatment process.
[Claim 2] The manufacturing method according to claim 1, wherein the polyvinylalcohol-based raw material film has a complete dissolution temperature in the range of 65 to 90°C.
[Claim 3] The manufacturing method according to claim 1, wherein the polyvinylalcohol-based raw material film has an average degree of polymerization of 2600 or more.
"Court Case Summary"
The present case is a case wherein, regarding a patent opposition filed prior to the enforcement of the law against a patent for a "polarizing film manufacturing method" held by the Plaintiff, the Japan Patent Office issued a decision to revoke the patent for the reason that the specification (referring to a "specification" as an application document containing the "Claims") attached to the patent application contained inappropriate decisions. In response, the Plaintiff argued that the decision was erroneous, and requested the cancellation thereof.
The said patent includes the claimed elements of objects specified by ranges indicated by specific formulas using two technical variables (parameters) representing characteristics. In other words, the patent concerns a so-called parameter invention. Thereby, an effect is said to be produced wherein a polarizing film may be manufactured with excellent durability and polarizing performance, featuring excellent stability properties at the time of manufacture. In the present case, however, the legality of the descriptions in the specification, that is, concerning whether or not an invention that deserves the sole and exclusive protection of a patent is disclosed in conformance to Article 36 of the Japanese Patent Law in the specification,

the main points in contention are compliance with the so-called support requirement and/or enablement requirement of the specification, and permissibility of supplementation of descriptions of the specification outside of the descriptions themselves by submitting experimental data after the fact.

"Summary of decision by the Japan Patent Office"

(1) Violation of the Requirements for Description and Claims (Support Requirements)

The invention of Claim 1 uses a polyvinyl alcohol-based film where the relationship between the complete dissolving temperature (X) and the degree of equilibrium swelling (Y) is represented by $Y > -0.0667X + 6.73$ (formula (I) and $X \geq 65$ (formula (II)).

On the other hand, Paragraph [0008] of the present specification states the following: "[Means for Solving the Problem] Whereupon a result of having conducted extensive research in order to solve said problem, the present inventors found that when manufacturing a polarizing film by uniaxially stretching a polyvinylalcohol-based raw film, if a polyvinylalcohol-based film with a thickness of 30 to 100 μm, for which the relationship between the complete dissolution temperature in hot water (X) and the equilibrium swelling degree (Y) is within a range indicated by the following formulas, is used as the raw film; and particularly if a polyvinylalcohol-based film with an average degree of polymerization of 2600 or greater is used; the above-mentioned purpose can be achieved. Thereby, the present invention was completed:

$Y > -0.0667X + 6.73$ (I)

$X \geq 65$ (II)."

According to the detailed explanation of the invention described in the present specification, it is admitted that since an objective polarizing film in embodiment 1 was produced with the complete dissolution temperature rated at 71.6°C, and the equilibrium swelling degree rated at 1.95 when the drying temperature is 30°C and drying time is 24 hours, with an objective polarizing film in embodiment 2 produced where the complete dissolution temperature was rated at 72°C and the equilibrium swelling degree rated at 2.2 when the drying temperature is 40°C and drying time is 24 hours, both the embodiments satisfy the above two formulas, and the films have excellent polarizing performance and durability.

However, the scope prescribed by $Y > -0.0667X + 6.73$ (formula (I)) and $X \geq 65$ (formula (II)) covers a wide range, and the number of embodiments is insufficient to obtain the conviction that all things that satisfy these formulas will have the effects of excellent polarizing performance and durability. Additionally, it cannot be confirmed in light of the recitations in the present specification and technical common knowledge in the said field whether or not something that satisfies the two above-mentioned formulas will have the above-mentioned excellent effects.

As described in the notification of reasons for cancellation, since the method whereby the above two formulas were derived and the grounds and reasons thereof are unknown, the inventions for which patents are being sought cannot ultimately be deemed to have been described in the detailed description of the invention.

(2) Violation of the requirements for description

Whereas the two formulas provided above in claim 1 satisfy a scope that covers a wide range, it is unclear, even after taking into consideration the detailed description of the invention of the present specification, under what manufacturing conditions (degree of polymerization of PVA, drying substrate, drying temperature, drying time, and the like) the abovementioned two formulas are satisfied, and a film with excellent polarizing performance and durability can be obtained. Therefore, the detailed description of the invention of the present specification is not deemed to describe the purpose, constitution, and effects of the invention in such a manner that those skilled in the art can readily carry it out.

(3) Submission of experimental data after filing

According to the Certificate of Experimental Results, experiments 1 through 8 and comparative experiments 1 and 2 described in certificates were added, and the experimental conditions of the embodiments described in the present specification differ greatly in terms of drying time, temperature and substrate from those of experiments 4 through 8 described in embodiments 1 and 2 of the present specification. Therefore, the addition of experiments with experimental conditions that differ greatly from those described of the embodiments does not supplement the embodiments described in the present specification, and this experimental data cannot be considered during the judgment of this case.

"Summary of court judgment"

Under the presupposition that inventions are made public, the main purport of the patent system is the granting of patents to said inventions, and the guaranteeing of the sole and exclusive carrying out of said invention over a specific period, thereby encouraging inventions and contributing to the development of industry. The specification that one who wants to receive a patent for a particular invention ought to attach to an application is, essentially, something that has the role of disclosing to the general public the technical contents of the said invention, and to elucidate the scope of the effects thereof after the patent rights are established (technical scope of patented invention), so that in order to receive a patent by describing an invention in the claims, the detailed description of the invention in the specification must contain descriptions such that those skilled in the art can recognize that the problem of said invention can be solved. The reason that the support requirements for specifications provided in former Article 36, paragraph 5, number 1 of the Japanese patent law restricts the descriptions of the claims as provided above is that if an invention that is not described in the detailed description of the invention is described in the claims, sole and exclusive rights would arise for an invention that has not been made public, so the general public would be deprived of the benefit of the free use thereof. Consequently, the threat of inhibiting the development of industry may arise, thereby being contrary to the above-mentioned main purport of the patent system. Also, whether or not the descriptions in the claims comply with the support requirement for specifications ought to be judged by considering whether, upon comparison of the descriptions of the claims and the descriptions in the detailed description of the invention, the invention described in the claims is the invention described therein, and is within such a

scope that those skilled in the art can recognize that the problem of the said invention can be solved from the descriptions in the detailed description thereof, or, if such descriptions or suggestions are lacking, whether the invention is within such a scope that those skilled in the art can recognize that the problem of said invention can be solved in the light of the technical common knowledge at the time of filing, and the proper interpretation is that the patent applicant or the patentee bears the obligation for proving the existence of the support requirement of the specification. --- The present invention is one whose claimed elements that are specified by a range indicated by specific formulas using two technical variables (parameters) represent the values of characteristics, so it concerns a so-called parameter invention, but it is proper to interpret such an invention as one where the detailed description of the invention must be described by disclosing concrete examples so that the descriptions in the claims comply with the support requirement for specifications, in such a manner that those skilled in the art can understand the technical meaning of the relationship between the range indicated by those formulas and the obtainable effects (performance), even if there is no concrete disclosure thereof at the time of filing of the patent, or in such a manner that those skilled in the art can understand that the desired effects (performance) can be obtained within the range indicated by said formulas, by taking into consideration the technical common knowledge at the time of filing of the patent. --- If so, then it ought to be said that it would be impossible for any person skilled in the art who comes into contact with the present specification to recognize that the above-mentioned four concrete examples are evidence that when the complete dissolving temperature (X) and the degree of equilibrium swelling (Y) of a PVA film is in a relationship within the range of the x-y plane demarcated by the abovementioned diagonal solid line representing the baseline equation of formula (I) and the abovementioned dotted line representing the baseline equation of formula (II), the problems of conventional PVA based polarizing films would be solved, and a polarizing film having the abovementioned desired performance could be manufactured, even if the technical common knowledge at the time of filing of the present application is taken into consideration. With only such a description in the detailed description of the invention of the present specification, it cannot be said that concrete examples are disclosed and described in a manner sufficient for those skilled in the art to be able to recognize that within the range indicated by said equations, the desired effects (performance) can be obtained. Therefore, the description of claim 1 of the present specification cannot be said to be in compliance with the support requirement for specifications.

Precedent 2: Precedent relating to "7. Amendment Requirements, B: Restriction on Amendment": In the example, it is indicated that the range of numerical limitation described in a claim after amendment can be derived based on multiple descriptions in the specification, even when it is not stated in the specification.
Judgment: Hei 13 (Gyo-Ke), No. 89, Grand Panel case on the action to seek rescission of the JPO decision to revoke the patent

Item in the Patent Office; Opposition 75824 in 1998
Patent No. 2762740 (TOKUGANSHO 60-502662)
IPC: H01L 21/30, G03F 7/20
[Scope of claim] (Claims 9 through 23 corrected by correction request)
[Claim 9] A method of manufacturing an integrated circuit comprised of semiconductor material, including a step where excimer laser irradiation narrowed to a bandwidth of 0.1 angstrom or less is generated, a step where part of said narrow bandwidth radiation, at least, is directed to the semiconductor material via only a lens assembly of fused silica glass arranged within the route of said radiation, and a step where said semiconductor material is furthermore processed to completely manufacture said integrated circuit comprised of said semiconductor material.
[Claim 10] The method of claim 9, wherein the method narrows ultraviolet excimer laser irradiation bandwidth to 0.05 angstroms or less.
[Claim 11] The method of claim 9, wherein the method generates ultraviolet excimer laser irradiation of 0.1 angstrom in bandwidth and includes the narrowing of the laser irradiation bandwidth to 0.1 angstrom.
[Claim 12] The method of claim 10, wherein the method generates ultraviolet excimer laser irradiation of more than more than 0.05 angstroms in bandwidth, and includes the narrowing of the laser irradiation bandwidth to 0.1 angstrom or less.
[Claim 13] The method of claim 9, wherein the method narrows the ultraviolet laser irradiation by making it pass through a filter.
[Claim 14] The method of Claim 13, wherein the method employs a filter made of etalon.
[Claim 15] The method of claim 9, wherein the method employs an excimer laser with a bandwidth, causing such a large chromatic aberration that a lens made only of fused silica glass cannot be permitted without narrowing the bandwidth in manufacturing the integrated circuit.
[Claim 16] The method of claim 9, wherein the method projects a patterned reticle image on a semiconductor workpiece via a lens made only of fused silica glass.
[Claim 17] The method of claim 9, wherein the method projects a patterned reticle image on a fine pattern of 0.5 micrometer or less on a semiconductor workpiece via a lens made only of fused silica glass.
[Claim 18] The method of Claim 9, wherein ultraviolet laser radiated by the method has a wavelength of approximately 2,484 angstroms.
[Claim 19] The method of claim 9, wherein said workpiece employed in the method is a resist-coated wafer.
[Claim 20] The method of claim 9, wherein said excimer laser employed in the method is a pulse excimer laser.
[Claim 21] The method of Claim 9, wherein an ultraviolet laser irradiated by the method has a wavelength of approximately 4,000 angstromsor less.
[Claim 22] The method of claim 9, wherein the method includes a step where space is detected

between the focal plane of irradiation passing through the lens assembly and the surface of said workpiece, and a step where the center wavelength of said laser is changed to eliminate said space by moving said focal plane of said light beam in response to the detected space.

[Claim 23] The method of claim 9, whose method includes a step where a 2D scanning assembly scans irradiation from said laser to form an enlarged virtual source whose area of the irradiation pulse from said laser is averaged.

"Court Case Summary"

In the present case, regarding a patent opposition filed prior to the enforcement of the law against a patent for a "deep ultraviolet ray lithography" held by the Plaintiff, after a notification of reasons for cancellation was received and a correction request was made within a period specified by the said notification, the Plaintiff received a notification of reasons for refusal of correction, and submitted a written amendment of proceedings for such notification. In this case, the Japan Patent Office decided that "The patents described in Claims 5 and 12, Patent Number 2760740 are revoked. The patent described in Claim 11, Patent Number 2760740, is not revoked." In response, the Plaintiff argued that the decision was erroneous, and requested the cancellation thereof.

"Summary of decision by the Japan Patent Office"

(1)Decision on whether correction is appropriate

(1)-1; In the amendment of correction matters based on the amendment of proceedings dated August 4, 2000, the amendment contents that were intended, in the invention stated in Claim 12 prior to the correction, to correct the matter "[Claim 9] A method of manufacturing an integrated circuit comprised of semiconductor material, including a step where excimer laser irradiation narrowed to a bandwidth of 0.1 angstromor less is generated, a step where the part of the said narrow bandwidth radiation, at least, is directed to the semiconductor material via only a lens assembly of fused silica glass arranged within the route of said radiation, and a step where said semiconductor material is furthermore processed to completely manufacture the said integrated circuit comprised of said semiconductor material," amends the contents to read, "A method of manufacturing an integrated circuit device from a workpiece comprised of semiconductor material, including a step for generating KrF excimer laser pulse irradiation having a relatively wide bandwidth, a step where part of said bandwidth irradiation, at least, is directed to a workpiece with a resist layer via a lens assembly of only fused silica glass arranged within the route of said radiation, wherein said assembly indicates such a large chromatic aberration that cannot be permitted in response to said irradiation of a relatively wide bandwidth, a step where said irradiation bandwidth is fully narrowed to the bandwidth of 0.1 angstrom or less at the half power point so that the said assembly can permit low chromatic aberration although power of each pulse of radiation with the bandwidth narrowed is 5 mJ at least, and a step where the said workpiece is furthermore processed to completely produce the said device from the said workpiece. However, since the technical matter of "power of each pulse of radiation with the bandwidth narrowed is 5 mJ at least" included in the matters after correction means that the power of each pulse of radiation with the bandwidth narrowed is 5

mJ or more," this matter is not described in the specification prior to the correction in this case, where only the "power of each pulse is approximately 5 mJ" (paragraph [0018]) is defined. The above-mentioned amendment to correct a matter so as to include a technical issue not described in the specification prior to the correction is to change the gist of the written correction request.

(1)-2; The correction request dated December 15, 1999 includes the contents to correct claim 12, prior to the correction, describing "a method of manufacturing a device, including a step where laser radiation of a relatively wide bandwidth is generated, a step where part of said radiation, at least, is directed to the workpiece via a lens assembly arranged within the route of said radiation, wherein the said assembly responds to the said radiation of relatively wide bandwidth and indicates such a large chromatic aberration that cannot be permitted, a step where said assembly narrows the bandwidth of said radiation so fully that the said assembly can indicate a low chromatic aberration that can be permitted, and a step where the said workpiece is furthermore processed to completely produce the said device from the said workpiece," to the contents of matters described in claim 9, an essential requirement, and claims 10 through 23 for mode of operation of invention, and the corrected claims are as mentioned above.

In claim 9, an essential requirement after the correction, the structure described in claim 12 prior to the correction, including "a method of manufacturing a device, including a step where laser radiation of a relatively wide bandwidth is generated," "said assembly responds to said radiation of relatively wide bandwidth and indicates such a large chromatic aberration that cannot be permitted," and "a step where said workpiece is furthermore processed to completely produce said device from said workpiece" was deleted, with this deletion expanding the technical scope of pthe atented invention specified by the matters stated in claim 12 prior to the correction. The matters described in claims 10 through 23 for the mode of operation of invention also expand the technical scope of a patented invention specified by the matters stated in claim 12 prior to the correction substantially.

(1)-3: The above-mentioned correction includes one not made for any of the purposes of restriction of the scope of claims, correction of errors, and clarification of an ambiguous statement. Therefore, the relevant correction is not admitted.

"Summary of judgment of the court"

--- According to the decision, it is judged that since "the technical matter 'power of each pulse of radiation with the bandwidth narrowed is 5 mJ at least' included in the correction matters, the power of each pulse of radiation with the bandwidth narrowed is 5 mJ or more is a matter not described in the specification prior to the correction in this case, where the 'power of each pulse is approximately 5 mJ' (paragraph [0018]) is only defined. The above-mentioned amendment so as to include a technical matter not described in the specification prior to the correction is to change the gist of the written correction request," and the amendment in this case was judged to be illegal.--- However, --- is described in the specification prior to the correction. According to this description, the use of "appropriate short wavelength laser source

with sufficient power," with bandwidth not narrowed, for high resolution lithography is recognized to have been described. Since it is likely that narrowing the bandwidth decreases the power of the short wave laser source, but it seems unlikely that narrowing the bandwidth increases it, the power of each pulse of the laser source in paragraphs [0016] or [0017] can be admitted to be larger than the power of each pulse in paragraph [0018], that is, approximately 5 mJ. That is, it should be said to be described actually in the specification prior to the correction that a short wavelength laser source, whose power of each pulse is larger than approximately 5 mJ, is used for high resolution lithography.

When the statement of paragraph [0018] is further considered taking this into account, the statement "---" means that the high resolution can be achieved by obtaining short wavelength and narrow bandwidth output, and it is rational to interpret that the statement "---" following the said statement means that narrowing the bandwidth may prevent harnessing of the power necessary to attain a high throughput while, as a result of experiment, the power of each pulse was confirmed to be approximately 5 mJ, to retain high resolution, and not to hinder the attainment of high throughput. According to this interpretation, it is clear that the statement in paragraph [0018] "approximately 5 mJ, but --- sufficient" means that power of approximately 5 mJ or more is acceptable, in other words, "the power is 5 mJ at least." The statement of claim 9 after the amendment, in this case, the "power of each pulse of radiation with the bandwidth narrowed is 5 mJ at least," is a description not about the power of light irradiated to "a workpiece comprising of semiconductor material" (irradiation power), but about radiation power. Although it is realizable that the irradiation power is made smaller than the radiation power by installation of a filter, etc., it is clearly difficult to make the irradiation power larger than the radiation power. If it be so, narrowing the bandwidth may reduce the output power, preventing the achievement of high throughput, but it should be said that if the output power (radiation power) is too large, this is not immediately connected to the fact that high resolution cannot be maintained. Therefore, it is furthermore backed up that the statement of paragraph [0018] "approximately 5 mJ, but --- sufficient" must be interpreted as mentioned above. --- Thus, since the statement of claim 9 after amendment in this case "power of each pulse of radiation with the bandwidth narrowed is 5 mJ at least" should be said to be a matter described in the specification before the correction, the identification of deciding this item as "this matter is a matter not described in the specification prior to the correction in this case" is wrong.

Precedent 3: Example related to "5. Novelty or Inventive Step, 5-2. Inventive Step"; In the example, it was indicated that the identification of the present invention described in a distributed publication by recognizing a layer of a high refractive index and a layer of a low refractive index adjacent to each other, as a pair or one unit of optical layers, was mistaken because the content of the claimed invention was unreasonably sought to be found in the description of publication with the claimed invention in mind in the trial decision which identified that document.

Judgment: Hei 18 (Gyo-Ke), No. 10211, Grand Panel case on the action to seek rescission of

the JPO decision
Item in the Patent Office; Objection 2003-13402
TOKUGANHEI 6-511080
IPC: G02B 5/08, 5/26, 5/28
[Claims] (Amended claim 2)
[Claim 2] A formable high polymer reflection multilayer object, which has a substantially homogeneous reflective appearance over substantially the entire range of visible spectrum, contains first and second heterogeneous high-molecular materials at least, and contains a sufficient number of alternating layers comprised of the said first and second heterogeneous high-molecular materials that reflect at least 40 percent of visible light incident upon the object, wherein for an object having the in-range optical thickness of more than approximately 190 nm, in total, in the optical thickness of the repeating unit of said high-modular material, most of the individual layers of the said object substantially have first high-molecular material and second high molecular material between which the difference in refractive index is approximately 0.03 at least, and the layers provide the thickness with gradient in repeating units of optical layers to double the difference at least in wavelength between the reflection from the thinnest repeating unit and the thickest repeating unit in the said optical layer.
"Court Case Summary"
Since the plaintiff received a notification of reasons for refusal as a result of an amendment of proceedings related to the claimed invention made by the said plaintiff, the plaintiff submitted another amendment of proceedings (hereinafter referred to as "amendment in this case," and the specification and drawings related to the claimed invention after this amendment is referred to as "specification of the claimed invention"). However, since the plaintiff's patent was refused, the plaintiff requested an appeal against the examiner's decision of rejection. Since the Japan Patent Office reviewed this request as Objection 2003-13402 and then finally decided "the request for a trial is not established," the plaintiff argued that the decision was erroneous, and requested cancellation thereof.
"Trial Decision Summary"
The claimed invention (the invention stated in claim 2) was judged not to be patented based on the provision of the Patent Act, Article 29, Paragraph 2, because a person skilled in the art could easily arrive at the claimed invention based on the invention described in document 1 distributed before the date of priority claim of the claimed invention (invention described in document 1) and the invention described in document 2.

The contents of the invention described in document 1, which were identified to make the above-mentioned judgment, and the points of identity and different points between the claimed invention and the invention described in document 1, are as follows.
(Invention described in document 1) "Two-component multilayer reflection polymer object comprised of a first polymer (A) with a refractive index of n1 and a second polymer (B) with a refractive index of n2, wherein a difference in refractive index between the first polymer and the second polymer is 0.03 at least, sufficient number of layers are formed in the first polymer

and second polymer, and at least 30 percent of light incident upon the object is reflected."
(Point of identity) As a point of identity, it is "a formable high polymer reflection multilayer object which contains sufficient number of alternating layers comprised of the said first high-molecular material and second high-molecular material that reflect light incident upon the object, with the difference in refractive index between the first high-molecular material and the second high molecular approximately 0.03 at least."
(Difference point 1) As a difference point, the high polymer reflection multilayer object stated that the claimed invention has a substantially homogeneous reflective appearance over substantially the entire range of visible spectrum, while it is not described explicitly with respect to the invention described in document 1.
(Difference point 2) As another difference point, the high polymer reflection multilayer object of the claimed invention reflects at least 40 percent of visible light, while that of the invention described in document 1 reflects at least 30 percent of incident light.
In the claimed invention, most individual layers of the object have an in-range optical thickness of repeating units of high-modular material. that is more than approximately 190 nm in total, in optical thickness of repeating unit of high-modular material, and layers of the object provides the thickness with gradient in repeating unit of optical layers to double the difference at least in wavelength between the primary reflection from the thinnest repeating unit and the thickest repeating unit. On the other hand, the invention described in document 1 does not provide the abovementioned description.
"Summary of judgment of the court"
--- It is certain that Examples 3, 4 and 7 of document 2 indicate that the optical thickness of each unit (total of thickness of two layers) sequentially increases from the air side to the substrate side when a pair of two adjacent layers is treated as one unit. However, document 2 does not describe treating a pair of layers with a high refractive index and layers with a low refractive index in proximity to each other as one optical layer unit at all. In addition, it is clear that the layers with a high refractive index and a low refractive index in proximity to each other are not treated as an optical layer unit in document 2 based on the fact that the number of laminated layers is an odd number in Examples 1, 2, 5 and 6. In document 2, the optical film thickness of each dielectric layer in each example is not explained, and the optical film thickness is shown using a design wavelength λ. As this design wavelength is described as 550nm, it cannot be understood either that the film thickness of each dielectric layer of semitransparent mirror described in document 2 was set based on a wavelength that was designed to reflect. In addition, in document 2, as there exist examples where the number of layers is an odd number as mentioned above, it is not possible for a person skilled in the art to recognize the film thickness of a pair of two neighboring dielectrics having a different refractive index as one-unit optical layer with regard only to Examples 3, 4 and 7 whose number of layers described in document 2 is an even number.
The defendant asserts that in case of examples where the number of layers is an odd number among the examples in document 2, the substrate is also regarded as a one-unit dielectric layer

because the combination of the substrate and the adjacent dielectric layer forms one unit of two dielectric with a different refractive index. Accordingly, the fact that an example including odd numbered layers is disclosed in document 2 is not an obstacle to the concept that two adjacent layers of dielectric with a different refractive index is regarded as a pair, that is to say, one unit. However, document 2 does not describe that the substrate is recognized as one dielectric layer, or Table 1 to 8 where the thickness of dielectric layers is shown do not describe the optical film thickness of the substrate. In addition, in Table 2 to 8, “H”, which stands for half-silvered flat mirror part, excludes air and the substrate. Based on these reasons, there is no choice but to judge that it is unreasonable to recognize the substrate as one dielectric layer regarding the examples including odd-numbered layers among the examples in document 2. At the same time, when regarding the substrate as one dielectric layer, the examples in which the number of layers is an even number means a lack of an adjacent dielectric layer to form a set with the substrate. Therefore, the said claim by the defendant cannot be adopted.

In conclusion, it cannot but be decided that the finding was mistakenly made because the content of the claimed invention was unreasonably sought within the description of document 2 with the claimed invention in mind in the trial decision, which identified that document 2 "discloses laminated multilayer films that are laminated alternately with high refractive dielectric and low refractive dielectric whose optical thickness was provided with gradient in order to allow the entire visible light a high reflection characteristic", and that "laminating two layers having different refractive index and allowing an optical layer thickness gradient in order to provide the entire visible light with a high reflection characteristic" are publicly known based on document 2.

Precedent 4: Example related to "5. Novelty or Inventive Step, 5-2. Inventive Step"; In this example, the judgment was that where it is expected that with state of the art as of filing, replacement of the constituent of the main cited invention with the constituent of the sub cited invention could not achieve the original objective of the constituent of the main cited invention, even if they fall under the same technical field, a person skilled in the art could not easily arrive at such replacement.

Judgment: Hei 17 (Gyo-Ke), No. 10717, Grand Panel case on the action to seek rescission of the JPO decision

Item in the Patent Office: Objection 2002-13257

TOKUGANHEI 10-504964

IPC: H05B 33/44, G02B 3/00, 5/00, etc.

[Claims] (Amended claim 1)

[Claim 1] [Claim 1] An organic light-emitting diode that has two contact electrodes, including one electrode which works as an anode and one electrode which works as a cathode, an organic field where light is generated by electroluminescence when a voltage is applied between said two electrodes, and an optical component whose light-emitting part is covered with siloxane that is arranged in a route via which said light passes, wherein the said optical element is

embedded in said siloxane or formed in said siloxane, and is combined with lens, diffraction grating, diffuser, light polarizer, or prism, or any of them.

"Court Case Summary"

The applicant received a decision refusing a patent as a result of a written opinion submitted in response to a notification of reasons for refusal received with respect to the claimed invention. The applicant then requested an appeal against the examiner's decision of rejection. Since the Japan Patent Office had reviewed this request as Objection 2002-13257 and then finally decided "The request for a trial is not established," the plaintiff who had succeeded to the right to receive the patent from the applicant argued that the decision was erroneous, and requested cancellation thereof. The amendment was made to cope with the first notification of reasons for refusal after the decision to refuse a patent.

"Trial Decision Summary"

The claimed invention (invention stated in claim 1) was judged not to be patentable based on the provision of the Patent Act, Article 29, Paragraph 2, because a person skilled in the art could easily arrive at the claimed invention based on the invention described in publication 1 and publication 3 distributed before the date of the claimed invention and the invention described in publications 2 and 3.

"Summary of judgment of the court"

In addition, according to the said description of document 1, although the overcoat layer in the cited invention 1b has to be one that could substantially flatten the concave-convex surface of the light dispersal part, there is no evidence to prove that siloxane in the cited invention 3 has a property suitable to flattening in terms of formation method and film thickness. On the contrary, in light of the description of said document 3 and the description of Gazette Publication No.1-307247, it does not seem to be suitable for flattening. If so, even if the light-emitting part (organic EL element in cited invention 1b and laminated structure in cited invention 3) is covered with a coating layer (overcoat layer in cited invention 1b and siloxane in the cited invention 3) both in the cited invention 1b and the cited invention 3, and they fall under the same technical field called organic light-emitting element, that is not enough to reason that a person skilled in the art could have easily arrived at the use of siloxane in the cited invention 3 instead of an overcoat layer in the cited invention 1b.

Although the defendant asserts that the use of siloxane as a flattening film is a well-known technical matter as shown in Gazette Publication No.1-307247 (Reference Otsu No.1) and Gazette Publication No.2-123754 (Reference Otsu No.2), the said Gazette Publication No.1-307247 states that the oxide film formed by CVD method (plasma CVD method) is not suitable to flattening because it is very thin as described above, and the forming method for flattened layer by siloxane (page 3, left-top column line 3-page 3, right-bottom column line 6) is not achieved by the CVD method. This also applies to film formation by siloxane described in Gazette Publication No.2-123754 (page 3, right-top column, the last line ~ page 3, left-bottom column line 14). In addition, the flattened film described in these documents should be formed not on an organic light-emitting element device like in the cited invention 1b

and the cited invention 3, but on a semiconductor device. Moreover, there is not enough evidence to prove that it is known that an organic light-emitting element can be treated in the same manner as a semiconductor element with regard to the damage received during the process of protection layer formation. Even if each document mentioned above describes the formation of flattened film using siloxane by methods other than a CVD method in semiconductor devices, that does not prove that it could be easily achieved by a person skilled in the art to form the protection film of siloxane disclosed in document 3, which describes "electrical insulation high-molecular compounds such as polysiloxane which can form film by CVD methods [plasma polymerization method (plasma CVD)]" and "it is desirable to inhibit property degradation of light-emitting layer and counter electrode in the process of protection layer formation as much as possible from a viewpoint of obtaining long-life organic EL elements, and it is particularly desirable to place a protection layer under the vacuum environment by the PVD or CVD method" as mentioned above by means of methods other than the CVD method under a vacuum environment, and to use it for the flattened film instead of the overcoat layer in the cited invention 1b.

The defendant asserts that the use of an overcoat layer in the cited invention 1b in exchange for siloxane in the cited invention 3 could easily occur to a person skilled in the art who seeks to use a better material. However, siloxane described in the cited invention 3 cannot be recognized as having a suitable property for flattening, as already mentioned, and it cannot be "a better material" in exchange for an overcoat layer described in the cited invention 1b. Therefore, the said assertion by the defendant cannot be accepted. --- For the reasons above, it should be said that the judgment of the reasons for trial decision related to the different point between the claimed invention and the cited invention 1b is erroneous.

Precedent 5: Example related to "5. Novelty or Inventive Step, 5-2. Inventive Step":

In the example, although the trial decision related to the different point judged that the constitution of the claimed invention could easily be arrived at, it was indicated that this decision part was based on false recognition of the description of the cited publication, and the judgment of the trial decision related to the different point was erroneous.

Judgment: Hei 23 (Gyo-Ke), No. 10273, Grand Panel case on the action to seek rescission of the JPO decision

Item in the Patent Office: Objection 2010-15214

TOKUGAN 2009-81341

IPC: H01S 5/40, 5/183

[Claims]

[Claim 1] A 2D surface-emitting laser array, used as a light source for lithographic exposure of an image-forming device, whose surface-emitting laser elements are arranged in a 2D state where m rows (m is an integer of 2 or larger) are in the sub scanning direction and n rows (n is an integer of 3 or larger) are in the main scanning direction, wherein when a space between mesas is used to lay electric wires for individually driving said surface-emitting laser elements,

and the space between mesas is assigned through the constitution to increase the space in the said m-row direction according to the number of said electric wires passing through between the said mesas,

where the space in the said m-row direction between column j and column j+1 is Dj,

the number of wires passing through between the element (row i, column j) and the element (row i, column j+1) is Fij with the number of wires ($1 \leq i \leq m$ and $1 \leq j \leq n-1$),

the maximum value is Cj among F1j, F2j, --- Fmj, and gT is a set of elements given for individual Dj's corresponding to all j's satisfying Cj=T ($1 \leq j \leq n-1$, and T is a positive integer), and if at least a set of positive integers T1 and T2 exist when each of them satisfies $0<T1<T2$ and sets gT1 and gT2 are not empty, the minimum value of wire width in said electric wires of said surface-emitting laser element, the minimum value is ST among the elements of said set gT and mean value is MT, and neither gT1 nor gT is empty for arbitrary positive integers T1 and T2 satisfying $0<T1<T2$, the constitution of the 2D surface-emitting laser array satisfies the following conditional formula (1):

$ST2-MT1>E \times (T2-T1)$ --- (1)

"Court Case Summary"

The applicant’s patent was refused as a result of a written amendment of proceedings submitted in response to a notification of reasons for refusal received with respect to the claimed invention. The applicant then requested an appeal against the examiner's decision of rejection. Since the Japan Patent Office had reviewed this request as Objection 2010-15214 and then finally decided "The request for a trial is not established," the applicant argued that the decision was erroneous, and requested cancellation thereof. The amendment was made to cope with the notification of reasons for refusal in the examination.

"Trial Decision Summary"

The claimed invention (invention stated in claim 1) was judged not to be patentable based on the provision of the Patent Act, Article 29, Paragraph 2, because a person skilled in the arts could easily arrive at the claimed invention based on the invention described in the cited publication distributed before the date of the claimed invention.

The cited invention identified to make the abovementioned judgment, and the points of identity and different points between the claimed invention and the invention described in the publication, are as follows:

(Cited invention) "2D VCSEL array, used as a light source for light-writing of an image forming device, that is comprised of surface-emitting laser elements 2D-arranged in the main scan direction and sub scan direction, wherein wires that are formed in said surface-emitting laser elements individually and in which current flows pass through the said surface-emitting laser elements, and two or more wires pass through the said surface-emitting laser elements located in the outermost circumference of the array."

(Point of identity) "A 2D surface-emitting laser array, used as a light source for lithographic exposure of an image-forming device, whose surface-emitting laser elements are arranged in a 2D state where m rows (m is an integer of 2 or larger) are in the sub scanning direction and n

rows (n is an integer of 3 or larger) are in the main scanning direction, wherein a space exists between mesas for laying electric wires to individually drive said surface-emitting laser elements."

(Point of difference) In the claimed invention, wherein, when the said space between mesas is "assigned through the constitution to increase the space in the said m-row direction according to the number of said electric wires passing through between said mesas, where the space in the said m-row direction between column j and column j+1 is Dj, the number of wires passing through between the element (row i, column j) and the element (row i, column j+1) is Fij with the number of wires ($1 \leq i \leq m$ and $1 \leq j \leq n-1$), the maximum value is Cj among F1j, F2j, --- Fmj, and gT is a set of elements given for individual Dj's corresponding to all j's satisfying Cj=T ($1 \leq j \leq n-1$, and T is a positive integer), and if at least a set of positive integers T1 and T2 exist when each of them satisfies $0<T1<T2$ and sets gT1 and gT2 are not empty, the minimum value of wire width in said electric wires of said surface-emitting laser element is E, the minimum value is ST among the elements of said set gT, mean value is MT, and neither gT1 nor gT is empty for arbitrary positive integers T1 and T2 satisfying $0<T1<T2$," the said space "is constituted to satisfy conditional formula (1)" of "ST2-MT1>E to (T2-T1)." In the cited invention, however, "the number of wires passing through between said surface-emitting laser elements located in the outermost circumference of the array is two or more," and it is unknown that the abovementioned constitution is provided for the space between the mesas of surface-emitting laser elements of the 2D VCSEL array.

"Summary of judgment of the court"

--- (1) The cited publication (Ko 1) is described as follows.

"[00099]

However, if the VCSEL array is comprised of 8 X 8 surface-emitting laser elements, the number of wires passing through the surface-emitting laser elements located in the outermost circumference must be two or more, as pointed out in Patent Document 3 (Judgment Note: Gazette Publication 2003-255274). As the result, the space between surface-emitting laser elements must be wider, and a larger size of 2D VCSEL array is required. This causes a problem whereby the beam space is too narrow to use the light source for high density light-writing. As another problem, the increase in size reduces the number of chips obtainable from one wafer, resulting in increasing cost.

[0010]

Therefore, this invention was made to solve such problems. The purpose of the invention is to provide such a surface-emitting laser array that can inhibit the increase of the size, even if the number of surface-emitting laser elements is more than 36. ----

[Means for Solving the Problem]

[0012]

According to this invention, the surface-emitting laser array is equipped with n surface-emitting laser elements (n is an integer larger than 36) and n wires. The n surface-emitting laser elements are 2D-arranged. Each of the n wires is connected to a p-side

electrode or n-side electrode of the surface-emitting laser elements. In addition, the number of wires passing through between the surface-emitting laser elements located at the outermost circumference of the array including n surface-emitting laser elements is 0 or 1."

(2) According to the said description, the cited publication is described as follows: If the VCSEL array is comprised of 8 X 8 surface-emitting laser elements, the number of wires passing through the surface-emitting laser elements located in the outermost circumference must be two or more. As the result, the space between surface-emitting laser elements must be wider, and a larger size of 2D VCSEL array is required. This causes a problem whereby the beam space is too narrow to use the light source for high density light-writing. Another problem also exists whereby an increase in size reduces the number of chips obtainable from one wafer, resulting in increased cost. To solve such problems, the number of wires passing between the surface-emitting laser elements located at the outermost circumference of the array, including n surface-emitting laser elements (n is an integer larger than 36)), must be 0 or 1. The cited publication neither describes nor suggests that the space in the surface-emitting laser elements should positively be widened to lay two or more wires when such wires pass between the surface-emitting laser elements located in the outermost circumference. If so, this means that the cited publication describes or suggests neither the idea that "in a 2D surface-emitting laser array used for electrophotographic device, its light emitting spots do not have to be arranged at equal spaces in the main scanning direction" (paragraph of the specification of the claimed invention [0014]), nor the technical idea that "when a space between mesas is used to lay electric wires for individually driving said surface-emitting laser elements, and the space between mesas is assigned through the constitution to increase the space in the said m-row direction according to the number of said electric wires passing through between said mesas" (constitution B asserted by the plaintiff). Thus, in the cited invention where the number of wires passing through the surface-emitting laser elements is located in the outermost circumference, it cannot be said that a person skilled in the art will easily arrive at the idea that a space between mesas in the main scanning direction of the surface-emitting laser elements is assigned increasingly according to the number of wires passing through the mesas.

When a determination was made in the trial decision with respect to this point of difference, it was therefore erroneous to instruct "in the cited invention where the number of wires passing through between the surface-emitting laser elements located in the outermost circumference is two or more, a person skilled in the art could easily conceive that the space between surface-emitting laser elements, between which the wires are placed, are widened in such a manner that said two or more wires, at least, can pass between the said laser elements."

--- For the trial decision, the court determined that based on the instruction part clarified at the end of 3 (2) above, a person skilled in the art could easily arrive at the constitution of the claimed invention related to the difference. However, this determination is based on a false recognition of the description of the cited publication, and the judgment of the trial decision related to the point of difference was erroneous.

10. Summary

This description has not only described general examination guidelines for criteria requirements for patentability, written description requirements of specifications, corrective requirements, and so on according to the "Examination Guidelines for Patent and Utility Model in Japan," but also introduced judicial precedents related to applications belonging to several fields, which seem to be representative technologies of optical instruments.

Note that the judicial precedents introduced here do not represent all fields of the optical instrument, but are only a part of them. Many of the judicial precedents introduced here are related to judgment on novelty or inventive step. This reflects the fact that many of the appeals against judgments of the Patent Office are related to novelty or inventive step.

It would be appreciated if the explanations here contribute to understanding of examination guidelines for patent applications in the field of optical instruments.